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# SHOOTING TIMES

MARCH 2015

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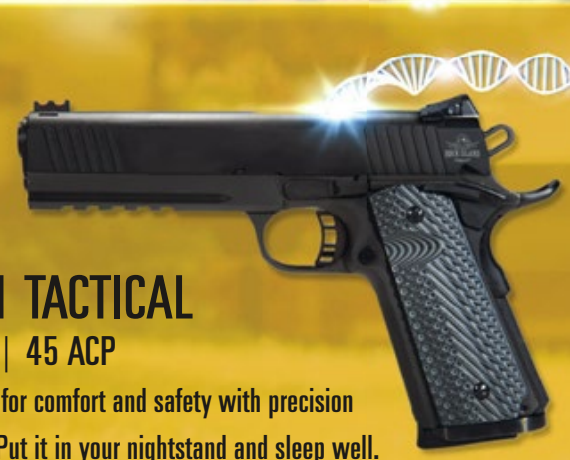

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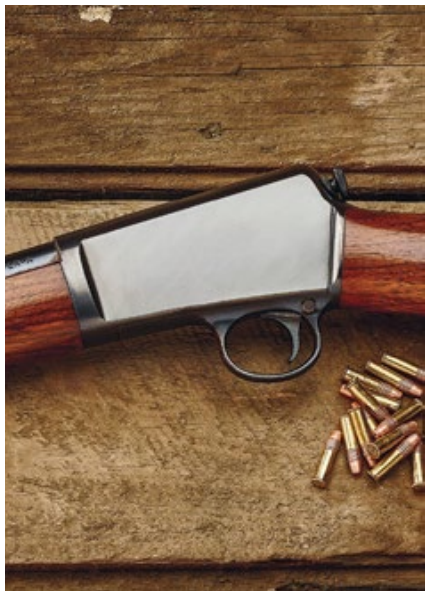

## SHOOTER'S UPDATE



## SHOOTER'S GALLERY



## SHOOTER'S SHOWCASE




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MARCH 2015 VOLUME 56, ISSUE 2


## AIRING ON THE SPORTSMAN CHANNEL
MONDAYS @ 8 P.M. ET AND TUESDAYS @ 5 P.M. ET

### First Week of January
**Guns & Ammo TV kicks off its 13th season with new segments called "Suppressors: Silence is Golden" and "Rifle Revolution." The staff takes a good hard look at suppressors for rifles, pistols, and even shotguns. And Craig Boddington and Kyle Lamb offer their insights into bolt-action and semiauto rifles. Plus G&A TV celebrates 30 years since Beretta won the M9 contract with a close-up look at the venerable pistol.**

### Second Week of January
**The biggest and brawniest semiauto pistol made highlights this week's show, with Magnum Research's .50 AE Desert Eagle in the spotlight. Plus former special ops Tom Beckstrand offers his personal perspective on the incredibly accurate Black Hills .308 Match load.**

### Third Week of January
**More about the history of suppressors is offered, including a look at a cool old Colt Woodsman .22 with original suppressor. And the team checks out Stag Arms's new 9mm carbine and S&W's newest M&P 9mm pistol. Plus Boddington and Lamb talk about enhanced triggers.**

### Fourth Week of January
**SIG's cutting-edge Model 320 Conversion Kit gets put to a shooting test. The team takes a good hard look at Inland Manufacturing's reintroduced M1 carbine. And the show closes out with a sound meter analysis of suppressed and unsuppressed guns. Your eyes and ears may be surprised by the results.**







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# New Look!

**EXACTLY 55 YEARS AGO, THE FIRST ISSUE OF *SHOOTING TIMES* WAS PUBLISHED.** The magazine has come a long way since then, and we've just given *ST* a fresh new look.

That first issue was billed as "the gun world's pocket newspaper," and it had a quaint nameplate hand drawn by the art department. The editorial content consisted mainly of short how-to articles. Back then the magazine was in tabloid format. It measured 10.5 by 14.5 inches and was printed on newsprint. A lot of the pages in that first issue were filled with classified ads.

Today, *ST* is in the glossy magazine format with dimensions of 7.75 by 10.5 inches, and we haven't run any classified ads for a long time. Over the years the nameplate was modernized, but we've given it an even more modern, cleaner, streamlined design. We've reorganized and renamed our regular vintage-gun, handloading, ballistics, and gunsmithing columns, but we're still providing the same great information. We've added fast facts and quick tips to many of the departments, and the feature articles now have a cleaner, more reader-friendly look. Art Director Luke Bouris has spent hundreds of hours working on this redesign, and Copy Editor Mike Brecklin and I have worked diligently to make *ST* more informative and more enjoyable to read. We hope you like the new look as much as we do.

**Joel J. Hutchcroft**
Editor In Chief

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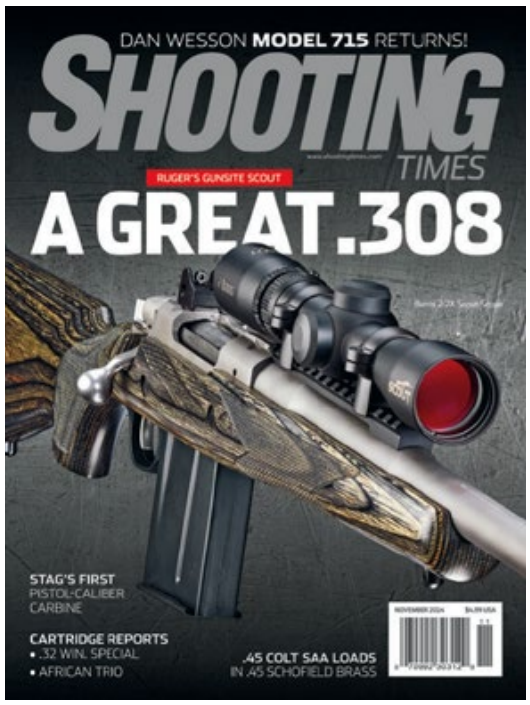


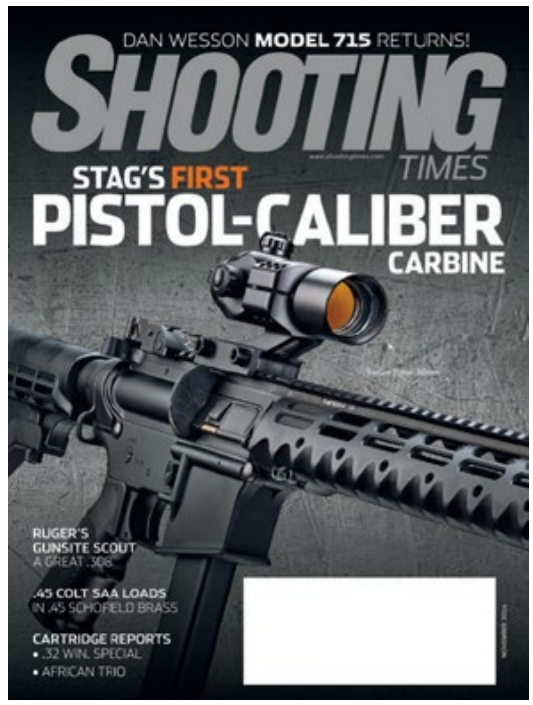


# A Great Issue!

**NOVEMBER 2014 WAS A GREAT ISSUE! I'M GLAD TO SEE YOU RECOGNIZE** those of us who appreciate articles on something other than plastic rifles and the semiauto clones of the Glock. I'm an enthusiastic reader again!

**Brendon Berg**
Via e-mail

## .256 Win. Mag.

I read with much interest the article about the diminutive .256 Winchester Magnum cartridge and guns that were chambered for it in the November 2014 issue. The article stated that the Marlin 62 was the only rifle chambered for it, but I owned a Universal M1 carbine chambered for it that I bought new out of *Shotgun News*. I kept it for a number of years and enjoyed shooting it, but I ended up selling it. It was a great little gun that I wish I had kept.

**Edward Bray**
Perry, GA

## Universal M1 Ferret in .256

I enjoyed the article on the .256 Winchester Magnum in the November 2014 issue and would like to add a bit of trivia. Universal Firearms introduced a .256 Winchester variation of its M1 carbines in 1963 and called it "The Ferret." It was last produced in 1983, which makes it the longest lived, if least known, production rifle in .256 Winchester.

I can't fault the author's observation that the Marlin Levermatic was the ideal rifle for the .256 when it was introduced, but now I would suggest the Marlin Model 1894.

**Marshall Williams**
Burlington, WV

## Slug Guns Are All Right

It was so nice to see the Browning A-Bolt 12 gauge written up in the October 2014 issue. Browning makes fine slug guns for many applications. Hunters often focus on hunting with centerfire rifles over shotguns if they have that option in their geographical hunting territories. However, hunters must not forget the substantial knockout power a shotgun can deliver within reasonable distances, making it a very dependable hunting firearm for various-sized game.

Thank you for discussing a shotgun in your magazine. The column was a nice reminder to all of us that the power and accuracy of a shotgun slug is still a formidable opponent for taking trophy-sized game in most hunting areas.

**Jarrod Love**
Via e-mail

## Other .256 Guns

The article on the .256 Winchester Magnum in the November 2014 issue was interesting to me, as I've seen merit in the cartridge. I resisted the urge to purchase the two firearms mentioned in the article. In addition to those rifles, Universal Firearms Corp. made an M1 clone in .256 called "The Ferret" and, I believe, in four different models/versions. There are no specific serial number records, but several thousand or more were likely produced. As a sidelight, a number of these were supposedly sent to South America, since carbines in military calibers were outlawed there, where they were used as jungle protection from the larger cats.

Also, there was a commercial single-shot pistol by Rex Merrell that was chambered in the .256 during the same 1960s period. It was very similar in concept to the Thompson/Center Contender.

Keep up the good work, especially articles like this that highlight some of the lesser known firearms and cartridges extant.

**Pete Sloane**
Newport, OR

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## Buy American

When I received the October 2014 issue, I was elated to see the article regarding the new Winchester Model 1892 Short Rifle. Although the Winchester lever actions have always been on my "to own" list, I have yet to get one. The article itself was interesting, and the author did a nice job describing the history of the various lever actions. But as I read the article, my elation quickly turned to disappointment.

It seems only fitting to me that gun companies that receive the substantial and majority share of their income, and hence profit, from the sale of guns in the United States should manufacture their guns in the USA. After all, almost all of the gun companies enjoy their tremendous success due to the fact that the U.S. is a gun country with a gun culture and the protection to keep this right built into the Constitution. The new Winchester Model 92 is manufactured in Japan, which I was not aware of until I read the article.

I am not a fanatic about "Made in America," but there is an adequate supply of American-made firearms of excellent quality and of substantial number and supply that I think we should support these American-made firearms exclusively. American firearms manufacturers should manufacture all of their products in the U.S., and foreign firearms companies should put a manufacturing facility in the U.S. to manufacture all of the guns they intend to sell in the U.S.

**W. Stack**
Via e-mail

## Best Walking-Around Varmint Rifle

I wholeheartedly agree that the .17 WSM is the "speed king" of the rimfires. I rushed out and got one of the first Savage B.Mag rifles on the market and 200 rounds of 20-grain .17 WSM ammo. I upgraded my rifle with a Boyd's stock and a Galco Ching sling. Paired with a Nikon Coyote 3-9X scope, I have found this rifle to be the best packing varmint rifle I've ever owned. It is very light, has no recoil, and is flat shooting and accurate. I don't shoot groups; I shoot coyotes and prairie dogs, and so far the results have been outstanding. The five coyotes I've taken with it reacted as if hit with a much larger varmint round, dying feet from where struck. The hundred or so prairie dogs I've shot all looked like they had been hit with a .223. My only problem is the 200 rounds I picked up have been the only rounds I've been able to find as I refuse to pay scalper prices to unethical sellers. I hope the .17 WSM has a long and successful life. It's too great of a round to wind up in the trash heap.

**Trent Willis**
Via e-mail

## Let's Change the Law

If there was ever a rifle crying out for a barrel shorter than 16 inches, it is the Stag Arms Model 9 reviewed in the November 2014 issue. Equipped with a 9-inch barrel and a quality sound suppressor, this rifle would be no longer than the model tested. It would also be hearing-safe indoors for the user and his family members, should the need for indoor use ever arise.

But this ideal configuration is complicated and exasperated by the National Firearms Act of 1934. Because of this ridiculous law, it would take a law-abiding citizen living in a permissive state an additional $400 in tax and probably a year of bureaucratic paperwork to make owning this combination a reality. How a 9mm rifle with a barrel shorter than 16 inches is perceived to be more dangerous than a Glock 17 is incomprehensible. And why a metal tube that moderates sound pressure is governed by the same law as a submachinegun makes even less sense.

It would seem that reasonable people, using facts and logic, could address these issues and make changes to the law that would make obtaining these items easier. However, given the current polarity on both sides of the gun control debate, the chances of this happening are slim and none.

**Donald Fleu**
Ashland, KY


## Old Can Be Interesting

In this age of the ubiquitous AR rifle in all of its many iterations, I was pleased to see *Shooting Times* devote some space and attention to an old geezer like the .32 Winchester Special in the November 2014 issue. I have always been drawn to "orphan" calibers and enjoy loading for and shooting them. A year or so ago, I located an unusually clean Model 94 Winchester in .32 Special and began my work with that cartridge. Federal 170-grain factory loads do a great job, as do my handloads that exactly duplicate their accuracy and point of impact using the Speer 170-grain FP and IMR 4895 powder. Cartridges need not be new to be interesting.

**Keith Benton**
Kingman, AZ ST

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# Chiappa LA322 .22 LR Lever Action

**CHIAPPA'S TAKEDOWN-STYLE LA322 .22 LR LEVER-ACTION** rifle has a hooded front sight and a Buckhorn-style rear sight that's adjustable for windage and elevation, and the receiver is drilled and tapped for scope mounts. The rifle's alloy receiver has an "artificial" color-case finish, and the barrel is blued. The stock is beechwood. Barrel length is 18.5 inches; overall length is 35.5 inches. Weight is 5.5 pounds. The tubular magazine holds 15 rounds.

**Price: $469**

chiappafirearms.com


## IMR Enduron Technology Powders

IMR's new Enduron Technology extruded powders are insensitive to temperature change, prevent copper fouling from building up, provide ideal load densities, and are environmentally friendly.

IMR 4166 is a match-grade propellant with a burn rate for cartridges like .308 Win., .22-250 Rem., and .257 Roberts. IMR 4451 is designed for midrange burn-rate cartridges, such as .30-06, .270 Win., and .300 WSM. IMR 7977 is suitable for magnum cartridges like .300 Win. Mag., 7mm Rem. Mag., and .338 Lapua.

The new powders are available in 1- and 8-pound containers.

**Prices were not available at presstime.**

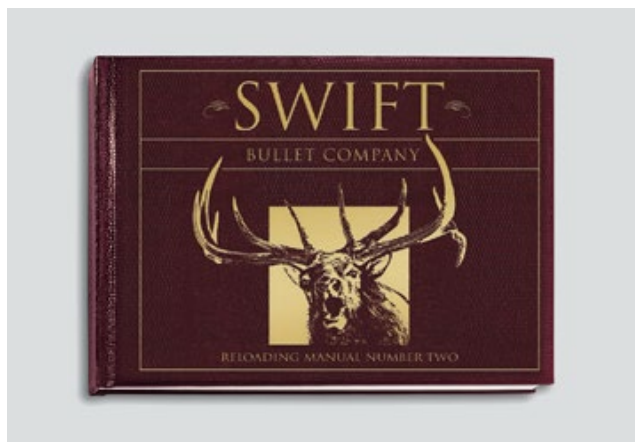
imrpowder.com


## Kahr CT380

This new .380 ACP pistol has a 3-inch barrel, an overall length of 5.52 inches, and a height of 4.4 inches. Weight is 11.4 ounces without a magazine. The frame is black polymer with 4140 steel inserts molded in. It has a machined, solid 416 matte stainless-steel slide and a textured polymer grip. The white bar-dot combat rear sight is drift adjustable; the polymer front sight is pinned in. The CT380 comes with one seven-round stainless-steel magazine.

**Price: $399**

kahr.com




## Swift *Reloading Manual Number Two*

Swift Bullet Co.'s new *Reloading Manual Number Two* provides a comprehensive and detailed reloading guide for the company's A-Frame and Scirocco bullets. The manual has 475 pages of in-depth handloading information with illustrations and contains load data and hunting ballistics for 86 cartridges. It includes new powders from Hodgdon, IMR, and Alliant as well as VihtaVuori and Norma powders.

**Price: $39**

swiftbullets.com

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## Winchester Deer Season XP

Winchester's Deer Season XP is a new deer-specific centerfire rifle ammunition line. Deer Season XP features Winchester's Extreme Point (XP) polymer-tip bullet, a new design that provides "massive" impact diameter, which leads to rapid expansion and better power and energy transfer for improved knockdown and larger wound cavities. Deer Season XP is available in eight calibers: .243 Win. (95 grains), .270 Win. (130), .270 WSM (130), 7mm Rem. Mag. (140), .308 Win. (150), .30-06 (150), .300 Win. Mag. (150), and .300 WSM (150).

**Prices were not available at presstime.**

winchester.com

## Blackhawk Boots

Blackhawk's new-for-2015 boots feature tool-storage pockets on the boot upper. Construction consists of Cordura-and-leather uppers, Vibram outsoles, Dri-Lex moisture-wicking inner liners, and antimicrobial OrthoLite custom-molded footbeds. Three models are offered, including Black Ops V2, Ultralight, and Ultralight Side Zip. The Black Ops V2 boots are offered in black only, and the Ultralight and Ultralight Side Zip come in black or desert tan.

**Price: $169.99 to $219.99 depending on model.**

blackhawk.com ST

Iver Johnson Safety Automatic revolvers were so named because their mechanism made them safe against accidental discharge, and they ejected cases automatically when the action was opened.

# Iver Johnson Safety Hammerless?

**Q: I HAVE AN IVER JOHNSON REVOLVER SIMILAR TO THE ONES JOEL** Hutchcroft wrote about in the November 2014 issue. The gun belonged to my great-grandmother, who owned a speakeasy and used it for protection. It has the serial number on the bottom of the trigger guard, and it's either #23252 or #28252. It's chambered for .32 S&W. "Iver Johnson's Arms & Cycle Works, Fitchburg, MASS USA" is stamped on the revolver and so is a patent date of "Aug. 25, '96."

What can the experts tell me about my revolver?

**Cody F. Barra**
Pekin, IL

**A:** Actual production numbers of the Iver Johnson Safety Automatic revolvers are not known, but some experts estimate between 4 million and 6 million were produced between 1894 and 1941. There were Safety Automatic revolvers, like the ones I wrote about in my column, with external hammers, and there were Safety Automatic Hammerless revolvers that had concealed hammers. Yours appears to be a Second Model Safety Automatic Hammerless with double post latch, and it was manufactured sometime between 1899 and 1907. It was designed to shoot cartridges loaded with blackpowder. Yours has a blued finish, which is somewhat rare.

By the way, the name Safety Automatic refers to the revolver being safe against accidental discharge and having all fired cartridge cases eject automatically when the revolver was opened.

**Joel J. Hutchcroft**

## Model 1911 Markings?

**Q:** I read Reid Coffield's answer explaining the inspection mark on the 1917 Colt revolver in a past issue's installment of "Ask the Experts." I have a Model 1911 with a similar inspection mark. The handles are stamped with 58, the last two numbers of the serial number, and all the markings show it was an Army issue.

The pistol was given to me by its "original" owner. It was issued to this family member in 1917. He was in the Tennessee National Guard when they were sent to Texas attached to General Pershing. The back of the holster is stamped 1917. He also carried it in France in World War I.

What can the experts tell me about my Model 1911?

**Harold Arnold**
Via e-mail

**A:** First of all, you have a wonderful 1911 Colt! It is a beauty, and to be able to associate it with a member of your family is even better.

Your pistol was made in 1914 and, consequently, is one of the earliest military 1911s. It was inspected by Maj. Walter G. Penfield, who served at Springfield Armory from 1909 until sometime in 1914. The number 58 on the grip panel is most likely a unit marking. It could have been the 58th 1911 issued to your relative's company or unit.

Again, this is a wonderful example of a very early and very desirable 1911.

**Reid Coffield**

## Best Powder for .308 AR?

**Q:** I have an ArmaLite AR-10 in 308. I want to handload 150-grain bullets for it. What would be the best powder choice?

**John Quirk**
Via e-mail

**A:** I've been doing a lot of handloading for the .308 in AR-type rifles lately, so I don't even have to check references to answer this. Unless you do a lot of testing, you can't determine what is the "best" propellant for your particular rifle. However, I'm quite sure that IMR 4895 or IMR 4064 would be among several of the better ones, and either will most likely do well.

**Lane Pearce**

## What About that Sling?

**Q:** In his article on the Winchester 1892 in the October 2014 issue, Layne Simpson is shown shooting a rifle with a sling. What can he tell me about that sling?

**John H. Hall**
Westbury, NY

**A:** The leather sling was actually made for use with side-by-side double shotguns, but I've used it more on older rifles that don't have sling swivels. I bought it years ago while visiting Holland & Holland in London.

**Layne Simpson**

## Italian Colt Navy Replica?

**Q:** I have an Italian Colt Navy replica from my dad's collection and am having trouble finding the manufacturer.

I know much of this is probably standard, but just in case it may lead to a specific manufacturer, overall length is 13 inches, and barrel length is 7.5 inches measured to where it meets the cylinder. The hexagonal barrel appears to be smoothbore. The cylinder is 1.68 inches, the trigger guard is 2.83 inches measured from the forward edge of the grip handles. The frame is brass. There are 12 total screws visible while assembled. The bore is 0.38 inch. A date stamp is XX (something)—looks like either another X or V. The stamping of the third digit made an impression of the top part only. There is the PN under single star (Gardone & Brescia) and the Gardone crossed rifles in a shield over the "wing" symbol. All those are on the underside of the frame directly in front of the trigger guard. The serial number is 33848. The 3s are slightly higher than the rest and together. There's a space and the 8 and 4 are together, and then there's a space and the final 8.

On the bottom of the grip strap is stamped "ITALY EIG" (in crosshair with double outside rings) "B" (with a slight tail at bottom right) inside a "G." On top of the barrel is stamped "EIG NAVY." There is engraving (to my eye it is machine done) around the muzzle and extending down the top only of the barrel. None on the rest of the barrel until it flares out to where the loading handle attaches, then is on both sides. Also, it's on each side of the loading handle in the muzzle end one-third and near where the handle attaches to the rod, and it continues to cover the entire frame sides and backside of the cylinder and down the backstrap. The trigger guard is engraved to match

the frame and on the underside, stopping under the trigger. The cylinder is engraved in the front half, stretching from the middle of one chamber to the middle of the next chamber with same repeating design. It looks like some kind of a flower or weed style.

The bluing looks very good. The hammer and loading handle are not blued. The wood on the grips is good. The front sight appears to be a brass post. There are two slight dents in one of the nipple areas on the cylinder, not the nipple, and they don't affect the cylinder rotation at all.

I believe the GB should be the maker stamp, but I have been unable to find who this belongs to, although I find it odd that EIG had enough room to place its stamp between the other two on the bottom of the grip strap.

Also, any idea what it's worth?

**Dan Herlt**
Dover, PA


**A:** Your replica Colt blackpowder revolver was made in Italy around 1969. It was imported into the U.S. by EIG, which was an importer located in Florida. As I understand, the company was founded in the 1960s and run by a fellow by the name of Saul Eig. He sold the company in the early '70s. EIG was known for importing a great variety of firearms. Most came from Spain and Italy and tended to be rather low cost. I can remember purchasing a similar EIG revolver in 1964 or so for about $30. It was my first blackpowder handgun.

Currently, a nice example of a handgun like yours will tend to sell for anywhere from $150 to $200 or so.

I wish I could identify the specific Italian maker, but I am unable to do so.

**Reid Coffield**

## Makes & Models of Rimfire Rifles?

**Q:** I wanted to let you know how much I enjoyed the article by Layne Simpson about the short and long of rimfires in the September 2014 issue. It was a good article. What makes and models are the bolt action on page 54 and the lever action on page 61?

**Les Camp**
Via e-mail

**A:** The bolt-action rifle on page 54 is a Remington Model 504, and the lever action on page 61 is a Winchester Model 9422. Both have been discontinued.

**Joel J. Hutchcroft** ST

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# Colt Pocket Positive

The little .32-caliber Pocket Positive revolver was hyped by Colt as "a pound of concentrated power." **BY JOEL J. HUTCHCROFT**

Colt built the small, thin double-action Pocket Positive revolver from 1905 to 1940. The author's gun is chambered for .32 Long Colt, and it will also accept .32 Short Colt rounds.

**SMALL REVOLVERS FOR SELF-DEFENSE HAVE BEEN** around for a very long time. In the early 20th century, a lot of them were chambered for .32-caliber cartridges. Some were top-break style, and some were swing-out-cylinder types. The Colt Pocket Positive is one of the latter. It was intended for personal protection and was produced from 1905 until 1940.


## Mechanicals

The Pocket Positive is a six-shot double-action revolver. The cylinder swings out to the left side when the cylinder release latch is pressed rearward. The firing pin is mounted on the hammernose.

With a 3.5-inch barrel, the little revolver weighs 17 ounces unloaded (19 ounces loaded), and it is 7.63 inches long. It's thin, with the cylinder measuring just 1.23 inches wide. Height is 3.75 inches.

The fixed rear sight is the typical groove down the topstrap, and the front sight is a half-moon-shaped blade. The stocks are black hard rubber.

This model was offered with blued or nickeled finish. It was also offered with a 2.5-, 3.5-, or 6-inch barrel.

Chamberings included .32 Colt, .32 S&W, and .32 Colt New Police. I'll get to the differences between them in a moment.

## Provenance

I bought the Pocket Positive shown here from a former editor of *Guns & Ammo* about four years ago. I don't know exactly where he got the little revolver, but I remember him once mentioning something about buying out a gun store sometime in his past. Its caliber is marked as "Colt D.A. .32." That means it's chambered for .32 Colt and will accept both



PHOTOS BY **MICHAEL ANSCHUETZ**

Long and Short versions. Luckily, he had three partial boxes of .32 Colt ammunition, and he graciously included them in our deal.

Researching the little revolver by its serial number, I have learned that it is a First Issue Pocket Positive built sometime between 1905 and 1927, most likely in 1908. It's in very good shape except somewhere along the path somebody removed (or tried to remove) the sideplate screw located on the lower left side of the frame under the cylinder window. They buggered up the head of the screw.

My revolver is considered an early transitional gun. As such, it bears "Colt's New Pocket" on the frame and "Pocket Positive" on the barrel. Being produced by Colt from 1895 until 1905, the New Pocket revolver preceded the Pocket Positive and was similar in design. The Pocket Positive was an improved version of the New Pocket and utilized an internal passive (a.k.a. "positive," hence the name) hammerblock safety feature.

## Rangetime

The gun shoots just fine, but I never intended on using this gun as my primary self-defense gun anyway because the .32 Colt chamberings, both Long and Short, are not powerful. Introduced in 1875, the standard loading for the .32 Short Colt was an 80-grain lead RN at a muzzle velocity of 745 fps. The standard loading for the .32 Long Colt was an 82-grain lead bullet at 755 fps. Both cartridges are now considered obsolete; they were overshadowed by the .32 S&W and .32 S&W Long, which generate slightly more muzzle energy (100 to 104 ft-lbs for the .32 Colt with an 80-grain bullet compared to 135 ft-lbs for the .32 S&W with a 98-grain bullet).


The little Pocket Positive is accurate enough, averaging 4.0 inches for five-shot groups at 25 yards with the two loads I fired in it and putting all 12 rounds of two full cylinders in a 3.0-inch circle at a close self-defense distance of 7 yards when fired double action as fast as I could manage it.

The Pocket Positive is fun to shoot, and the .32 Colt cartridges offer only mild recoil even in this thin, lightweight, small-grip handgun. Speaking of the small grip, I have medium-size hands, and I could fit two fingers on the grip easily, but I had to scrunch the third finger of my shooting hand to get it around the grip. Double-action trigger pull measured 12 pounds, according to my RCBS trigger-pull scale. Single-action trigger pull measured 6 pounds, 4 ounces.

Anticipating that some readers might want to know if I could fire .32 S&W rounds in my .32 Colt-chambered revolver, I did some research to find the answer. The answer is no. If my gun had been chambered for .32 Colt New Police, then I could shoot .32 S&W Long ammo in it because they are essentially the same cartridge with different names. The .32 Colt rounds, however, are not the same as the .32 S&W rounds or the .32 Colt New Police cartridge.

The Colt Pocket Positive is a nicely built revolver, and it's just the right size and weight to carry all day, every day. I just wish mine was chambered for a more effective self-defense round. ST

### POCKET POSITIVE

| | |
|---|---|
| **MANUFACTURER** | Colt's Manufacturing Co. |
| **TYPE** | Double-action revolver |
| **CALIBER** | .32 Colt |
| **CYLINDER CAPACITY** | 6 rounds |
| **BARREL LENGTH** | 3.5 in. (as tested) |
| **OVERALL LENGTH** | 7.63 in. (as tested) |
| **WIDTH** | 1.23 in. |
| **HEIGHT** | 3.75 in. |
| **WEIGHT, EMPTY** | 17 oz. |
| **STOCKS** | Hard rubber |
| **FINISH** | Blued (as tested) |
| **SIGHTS** | Fixed rear, blade front |
| **TRIGGER** | 12-lb. DA pull, 6.25-lb. SA pull (as tested) |
| **SAFETY** | Internal passive hammerblock |


**The .32 Long Colt and .32 Short Colt cartridges generated velocities between 650 and 724 fps in the author's 3.5-inch-barreled Pocket Positive revolver.**

### POCKET POSITIVE ACCURACY & VELOCITY

| AMMUNITION | VEL. (FPS) | E.S. (FPS) | S.D. (FPS) | 25-YD. ACC. (IN.) |
|---|---|---|---|---|
| **.32 Short Colt** | | | | |
| Winchester 80-gr. LRN | 650 | 59 | 24 | 4.50 |
| **.32 Long Colt** | | | | |
| Remington 82-gr. LRN | 724 | 37 | 14 | 3.50 |

**NOTES:** Accuracy is the average of three, five-shot groups fired from a sandbag benchrest. Velocity is the average of five rounds measured 12 feet from the gun's muzzle.

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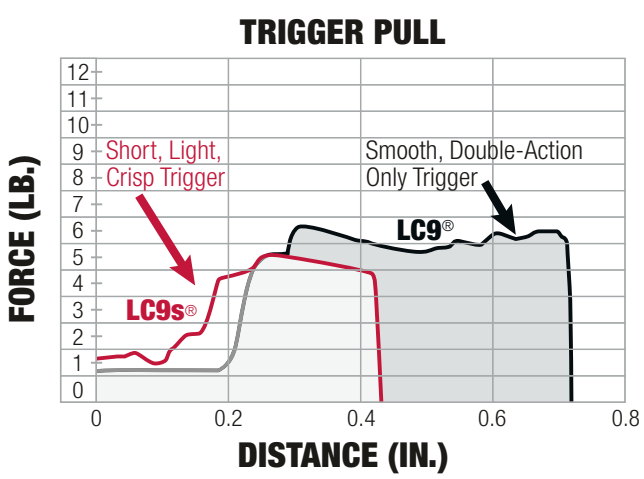


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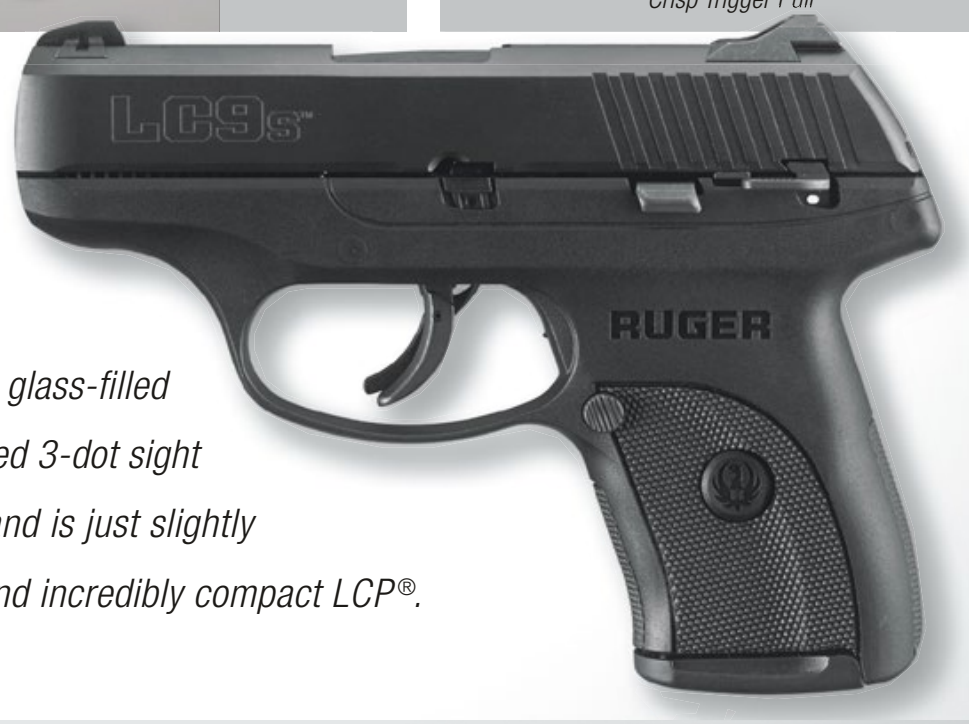


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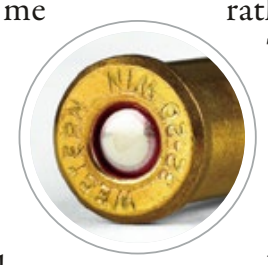
# Winchester's "Dash 20" Cartridges

The 19th-century .32-20 and .25-20 cartridges are great fun to shoot, and through handloading, their performance can be modernized. **BY ALLAN JONES**

**IN THE HEYDAY OF THE LEVER RIFLE, WINCHESTER** Repeating Arms developed a number of useful cartridges for its short-action repeating rifles. Two of the smaller versions, the .32-20 and .25-20, have always interested me, and working at Speer allowed me to study their ballistic characteristics.



Originally a blackpowder cartridge, the .32-20 was introduced in 1882 for the lever-action Winchester Model 1873. A decade later, it was necked down to .25 caliber, resulting in the .25-20. In 1938 it was necked down to .22 caliber and loaded with smokeless powder to create the .218 Bee.

## .32-20

The .32-20 WCF was introduced in 1882 in the Winchester Model 1873 lever-action rifle and found fast adoption by other armsmakers, such as Colt and Smith & Wesson, who chambered quality revolvers for the .32-20. Blackpowder performance from a rifle barrel was about 1,200 fps with a lead bullet weighing between 100 and 115 grains.

Although originally touted in advertisements as a deer cartridge, the .32-20 was always a small-game and pest cartridge. It was a common "rifle behind the kitchen door" in farmhouses. The .32-20 was popular enough to inspire quite a selection of factory ammo, including modern jacketed bullets. One pushed an 80-grain JHP bullet at about 1,800 fps. When I tested these in gelatin, I found the primitive hollowpoint design had a too-thick, too-brittle jacket and, if they deformed at all, tended to shatter rather than mushroom.

The current max pressure standard for the .32-20 is 16,000 CUP. Within that limit, we achieved 1,300 fps with a 100-grain cast lead bullet through a 22-inch rifle barrel. I cannot find any pressure standards for that old 80-grain JHP load. It was dropped decades before I had access to industry standards. The old ballistician in me thinks it would have been in the ballpark of 18,000 to 22,000 CUP. I suspect the deletion of this powerful load was the combination of an influx of poorly built knockoffs of American double-action revolvers from Spain between the two world wars. There were also single-shot rifles using swinging-block actions on small frames. Although of decent quality, their actions' geometry could allow loosening from repeated use of high-pressure ammo.



LEAD PHOTO BY **MICHAEL ANSCHUETZ**

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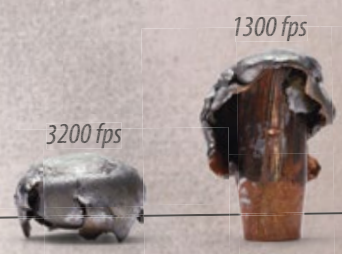


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With a strong action, like those in the Winchester Model 1892 and the Marlin lever actions made in the 1980s, you can get better performance by handloading. At Speer, we developed loads with a 100-grain JHP and propellants like H110 and W296 that exceeded 1,800 fps. We opted to hold pressures at 28,000 CUP, the limit for the .25-20 Winchester that was safe in the same rifle models.

One of my favorite rifles is a .32-20 Model 92 made in 1918. It has a 24-inch full-octagon barrel with a fine bore and is a delightful shooter. I bought it when I lived in Texas where hunters could use a rifle on turkeys.

Bullet diameter can be an issue, and it's likely responsible for finding so many worn barrels in older rifles. Bore diameter spec is 0.311 to 0.313 inch, but some factory jacketed bullets are as small as 0.310 inch, which allows a lot of gas blow-by that is hard on throats. The Marlins made in the late 20th century have 0.312-inch barrels.

The undersize bullet issue can lead to badly worn throats. I once owned a .32-20 Winchester High Wall made in 1886 that had a decent bore but a shot-out throat. Using a cast bullet seated long enough to touch the remaining rifling made that old rifle a decent shooter.

## .25-20

The .25-20 Winchester dates from 1893 to 1895, but it was not the first .25-20; an older version now called the .25-20 Single Shot (SS) existed from about 1882 for single-shot rifles. When Winchester researched adding a .25-caliber option to the Model 1892 rifles, the SS's 1.63-inch case was too long, so the company went with what already worked in that action and necked down the 1.315-inch .32-20 case to accept 0.257-inch bullets. Because it was designed for the stronger Model 92 action, the .25-20 had—and still has—a greater pressure limit than its forebear. Like I said before, the .25-20's is at 28,000 CUP.

The most common factory loads probably don't take advantage of that pressure as they drive an 86-grain JSP at about 1,450 fps. At Speer we developed safe loads within SAAMI pressure specs with the .25-caliber 75-grain Hot-Cor FNSP that posted 2,000 fps in a 22-inch barrel. Speer decided on that weight by testing existing 60- and 86-grain bullets. The light ones were fragile hollowpoints and the 86-grain factory softpoint loads seldom expanded. The 75-grain holds together yet expands nicely at .25-20 velocities.

The .25-20 will never be a deer cartridge, although people have used it for that. With the FNSP or a cast bullet loaded down to around 1,600 fps, this old cartridge is a wonderful turkey round where rifles are permitted for hunting the big birds.


The .32-20 has been loaded with a variety of bullets, including an 80-grain JHP high-velocity "varmint" version (right). Today, only a 100-grain lead load remains.

While working up data, we found those propellants traditionally shown for the .25-20 (2400, H110, W296, and 4227) while not bad did not let the cartridge fulfill its potential. Two propellants typically used in .222 and .223 Remington cases—IMR 4198 and Accurate 2015—gave high velocities at safe pressures and used most of the case capacity. Accurate 1680, often touted as a classic 7.62x39mm propellant, gave the highest velocity in our test rifle.

The most common rifles chambered for these two old cartridges are lever actions with tubular magazines. This forces two conditions on reloading: the need for a secure crimp that resists forces of recoil that want to push the bullet deeper into the case and the requirement of a flatnose bullet.

With any rear-lock action, as found in all lever guns chambered for this pair, check cases for stretch. Also have any vintage rifle inspected by a gunsmith to assure that it is in shooting condition. Even a rifle made to the highest quality standards can suffer wear from use and abuse.

Some of my most satisfying shooting sessions have been with my .32-20 Model 1892 and a Bowen Classic Arms conversion to .32-20 of a Ruger Blackhawk. Both are accurate and are fun ways to relive the shooting experiences of the past with modern performance. ST

**1882**

The .32-20 was introduced in 1882, the same year that the outlaw Jesse James was shot and killed.

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# Handloading the .35 Remington

The medium-power .35 Remington has far better knockdown power than the .30-30 under any conditions. **BY LANE PEARCE**

**THE .35 REMINGTON ISN'T FLASHY. IT NEVER WAS.** It can't claim any speed records. Compared to modern magnums, it just dawdles along. And it's not the most powerful rifle cartridge. But it is quite adequate for its intended purpose of cleanly dropping any wild pig, whitetail deer, or black bear out to 150 yards.

When I travel, I make it a point to visit as many out-of-the-way gunshops as I can. Last year, I stopped by Ron Mason's gunshop in Topton, North Carolina, and picked up a really nice Remington Model 141 Gamemaster .35 Rem.

Last spring, during some traveling out West for a varmint hunt, I met Tory Bateman at his gunshop in Kuna, Idaho. We did some dealing and forged a friendship. Later, after returning home, I had the occasion to call Bateman and wound up buying a nice early Marlin Model 336 in .35 Rem. over the phone. It has Ballard rifling instead of Micro-Groove rifling.

The .35 Remington may be more than 100 years old, but handloaded with today's modern powders and high-tech bullets, it makes a fine big-game cartridge out to 150 yards.

## The Cartridge

Introduced in 1906 (or 1908 depending on the reference source), the .35 Rem. was the largest caliber of a four-cartridge series developed for Remington's new Model 8 semiautomatic rifle. The other three (the .25, .30, and .32 Remingtons) were essentially rimless versions of Winchester's .25-35, .30-30, and .32 Winchester Special rimmed cartridges chambered in Winchester lever-action rifles. There was no similar corresponding round for the .35 Rem., and it's the only one of those four still surviving today, albeit just barely.

First, the .35 Rem. does not share the case head dimensions of the other three rimless rounds. In fact, they don't match any other cartridge that I can find. However, it's only a little smaller than the .30-06 case head, so that size shellholder is used for reloading.

It's also a relatively short round (2.525 inches OAL). After the case neck is formed to securely hold a 0.358-inch diameter bullet, only a small shoulder remains. Component bullets suitable for the .35 Rem. are typically short and squat with correspondingly low ballistic coefficients. Most of the currently available factory ammo (Remington, Federal, and Winchester) is loaded with the 200-grain JSP roundnose style.

Remington does offer factory ammo topped with an abbreviated spirepoint, 150-grain bullet, but it's hard to find. Hornady LEVERevolution ammunition recently reignited interest in the .35 Rem. and a couple of other moribund rounds. The enhanced propellant and polymer-pointed, flex tip expanding (FTX) bullets deliver much improved ballistic performance. Still, the .35 Rem. has just so much case capacity, and performance is constrained by a modest MAP (36,000 psi) in deference to the century-old rifles still in use.

Lee makes a really nice set of deluxe loading dies. In addition to the full-length sizer, bulletseating, and factory crimp dies, the kit also includes a shellholder,

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## .35 REMINGTON HANDLOAD DATA

| AMMUNITION | POWDER (TYPE) | POWDER (GRS.) | CASE | PRIMER | VEL. (FPS) | S.D. (FPS) | 50-YD. ACC. (IN.) |
|---|---|---|---|---|---|---|---|
| **Remington Model 141 Gamemaster, 24-in. Barrel** | | | | | | | |
| Speer 180-gr. SPFN | LVR | 44.8 | Horn. | CCI 200 | 2290 | 21 | 1.80 |
| Hornady 200-gr. InterLock RN | IMR 4064 | 38.3 | Rem. | Rem. 9½ | 2023 | 23 | 1.06 |
| Hornady 200-gr. InterLock RN | A2520 | 39.0 | Horn. | CCI 200 | 2185 | 12 | 1.32 |
| Hornady 200-gr. InterLock RN | LVR | 42.6 | Fed. | CCI 200 | 2064 | 18 | 1.02 |
| Hornady 200-gr. InterLock RN | LVR | 44.0 | Fed. | CCI 200 | 2180 | 9 | 2.12 |
| Hornady 200-gr. FTX | 2000 MR | 41.0 | Rem. | Rem. 9½ | 2058 | 11 | 1.70 |
| Speer 220-gr. SPFN | H4895 | 38.0 | Rem. | Rem. 9½ | 2052 | 10 | 1.50 |
| **Marlin Model 336, 20-in. Barrel** | | | | | | | |
| Speer 180-gr. SPFN | LVR | 44.8 | Horn. | CCI 200 | 2190 | 19 | 2.88 |
| Hornady 200-gr. InterLock RN | IMR 4064 | 38.3 | Rem. | Rem. 9½ | 1874 | 15 | 2.46 |
| Hornady 200-gr. InterLock RN | A2520 | 39.0 | Horn. | CCI 200 | 2090 | 15 | 3.30 |
| Hornady 200-gr. InterLock RN | LVR | 42.6 | Fed. | CCI 200 | 1984 | 34 | 3.06 |
| Hornady 200-gr. InterLock RN | LVR | 44.0 | Fed. | CCI 200 | 2071 | 12 | 1.88 |
| Hornady 200-gr. FTX | 2000 MR | 41.0 | Rem. | Rem. 9½ | 1957 | 13 | 3.05 |
| Speer 220-gr. SPFN | H4895 | 38.0 | Rem. | Rem. 9½ | 1970 | 24 | 3.15 |

**NOTES:** Accuracy is the average of at least two, five-shot groups fired from a sandbag benchrest. Velocity is the average of 10 rounds measured 10 feet from the guns' muzzles.

All load data should be used with caution. Always start with reduced loads first and make sure they are safe in each of your guns before proceeding to the high test loads listed. Since *Shooting Times* has no control over your choice of components, guns, or actual loadings, neither *Shooting Times* nor the various firearms and component manufacturers assume any responsibility for the use of this data.

powder dipper, and full instructions with a compendium of recommended load data. The reloading process is typical for any bottlenecked rifle cartridge with a couple of important extra requirements.

### Tips & Techniques

Rimless, bottlenecked cartridges headspace on the case shoulder. As I noted earlier, the .35 Rem. shoulder is quite small, so you must make sure when resizing to not set it back too much. Most .35 Rem. rifles have tubular magazines, so cartridges are loaded in line and can slam back and forth when the rifle is fired. The case neck must be fully resized to securely grip the bullet without affecting proper headspace.

I screw the sizer die down with small adjustments until the die body completely reduces the neck diameter and just kisses the shoulder. The die should also reduce the case body adequately, but I always cycle a few sized cases through the rifle to ensure they fit the chamber.

We're not done yet.

Remember I mentioned the factory crimp die from Lee Precision? It's used to perform the final (and important!) handloading step. After the bullet is seated with the case mouth aligned with the cannelure rolled around the bullet shank, the round is inserted into the crimp die until the collet jaws will close tightly. The case mouth is "crimped" onto the bullet cannelure serrations to help assure the bullet is securely held in place.

To achieve uniform crimping, every piece of brass must be trimmed to the same length within a couple thousandths of an inch so the crimp die can function correctly. Lee makes a simple, fixed-length hand tool if you have only a few cases to prep. Or, if your finances can bear it, several lathe-type trimmers will make short work of this repetitive—but necessary—task. Don't forget to deburr the case mouths inside and out after trimming.

The rest of the process is straightforward. Select the components, seat the primers (clean the pockets first), throw or weigh the powder charges (inspect each case to make sure there's powder and each charge looks alike), seat the bullets (only use those with a cannelure that's located to provide the required cartridge OAL), and then crimp.

As you can see in the chart, my Remington Model 141's longer barrel bumped velocities up approximately 100 fps across the board. It also usually delivered tighter groups than the shorter-barreled Marlin carbine.

I still can't figure out how that old Marlin lever gun ended up in Idaho. It couldn't be a practical Western hunting rifle because the game out there is just too big or too far away. Well, it's back where it belongs now—in my vault. ST

### Model 8

The .35 Remington cartridge was introduced along with Remington's Model 8 autoloader, which was marketed to big-game hunters.

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Want to make your Glock more effective? Here are a couple of easy do-it-yourself modifications. **BY REID COFFIELD**

Two easy D-I-Y upgrades for your Glock are putting on a Talon grip wrap and installing a LaserMax recoil spring guide/laser.

**EVERYBODY KNOWS THAT GLOCK SEMIAUTOMATIC** pistols (designed by Austrian Gaston Glock) just run and run and run. You can drive over 'em with a truck; you can submerge 'em in water, sand, and mud; you can freeze 'em in a block of ice and then heat 'em up to blistering temperatures and they just keep on working. But that doesn't mean you can't improve 'em with a few upgrades.

Take Editor in Chief Joel Hutchcroft's Gen 1 G21 for example. It's the full-size .45 ACP model, and he's had it since 2002. Back then he had swapped out the factory-original sights for an adjustable rear and a taller bright red ramped front post. But he wanted to make the old G21 even more effective to shoot. He wanted to do something about the grip texture. And he wanted to install a laser. We worked together to make the modifications, and they were darn easy to do.

## Textured Grip Wrap

For giving the old G21 grip frame a more secure texture, we selected an adhesive-backed grip wrap made by Talon (talongungrips.com). The Talon grip wrap Joel prefers is made of a material that makes me think of skateboard tape. Talon offers other materials, including rubber, but Joel likes the granulated material, so that's what we went with. One Talon wrap for pre-Gen 4 Glock 21s goes for just $17.99, so it's a very inexpensive way to improve your gun's grip. And just so you know, Talon makes textured grip wraps for just about all popular semiautomatic pistols, not just Glocks, and there are even some offerings for AR-style carbines, too.

Installing the grip wrap was easy, and it took just a few steps. All we needed were a hair dryer and some rubbing alcohol.



PHOTOS BY **MICHAEL ANSCHUETZ**

First, make sure the pistol is unloaded and then field strip it for safety. With the backing still on the grip wrap, test fit it for proper alignment.

Then clean the pistol's grip frame with the rubbing alcohol. Make sure it's completely dry before moving on to the next step.

Remove the backing on the grip wrap, start on the left side, and line up the grip wrap with the front and bottom of the grip frame. Center the grip wrap on the backstrap and then work your way around the grip. Gently roll the wrap to prevent air bubbles. Lightly wrap the finger strips evenly around the front of the grip frame and tuck the excess material under the left side where you started.

Once you've done all that, heat the grip with a hair dryer, taking care to not overheat it. The temperature of a warm cup of coffee is about right. Press the grip wrap firmly into place. Repeat this process, paying attention to firmly press all outside edges.

The adhesive-backed Talon grip wrap for the Glock G21 starts on the left side and wraps around the pistol's grip frame. Once it's in place, a hair dryer is used to heat the wrap, ensuring that it stays securely in place.

The LaserMax recoil spring guide/laser unit replaces the factory original recoil spring guide assembly. It's a quick and easy procedure.

## An Internal Laser

Since the Gen 1 G21 doesn't have an accessory rail on the underside of the frame like the newer Glocks do, we could have chosen a laser that attaches to the trigger guard. But we didn't want to do that because Joel has an old holster that he really likes, and it doesn't accommodate a trigger-guard-mounted laser. We could have replaced the already-replaced rear sight for one that has a laser built into it, but he's used to the Millett rear sight, and he didn't want to relearn how to shoot the G21 with a new rear sight. Fortunately, about a year ago, LaserMax (lasermax.com)

came out with a new green laser that goes inside the recoil spring guide, and the company just so happens to have one that fits the Gen 1 G21. It retails for $449.

Installation was easy, and it only took about 15 minutes to make the switch. With the G21 field stripped, all you do is remove the slide lock and spring and then replace them along with a new recoil spring and guide that has the built-in laser unit in it.

You'll want to make sure to note how the original slide lock and spring are installed as you remove them. Basically, you use a tool that's supplied by LaserMax to depress the flat metal slide lock spring down to release pressure on the slide lock and then remove the slide lock by pushing it sideways through the frame. Then turn the frame upside down and tap it gently on the benchtop so that the spring falls out. If it's stubborn, you may need to pry it out with the LaserMax tool.

Then place the new LaserMax spring in the slot in the frame and push the end of it into the slide lock spring channel. Insert the new slide lock, which doubles as the laser switch, making sure the colored dots are facing backwards and the bumps are facing down. For the Gen 1 G21 a supplied saddle block goes in the same slot as the slide lock spring. Be sure the curved portion is seated against the contoured spring guide channel.

Insert the assembled guide rod laser and spring unit into the slide. The battery cap end of the guide rod has a ramped protrusion, and the long edge of it must be facing away from the barrel lug.

Then reassemble the slide to the frame and cycle the slide. It should cycle freely under full pressure of the recoil spring.

Now push the slide lock/laser switch with your trigger finger until you feel the click. The laser should project a pulsing beam that closely matches the point of aim of the pistol's sights.

And that's all there is to it. With the addition of the new grip texture and the internal laser, Joel's G21 is now ready to go. ST

## Gen 4 G21

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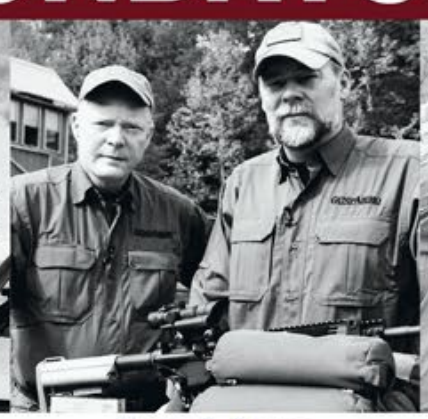

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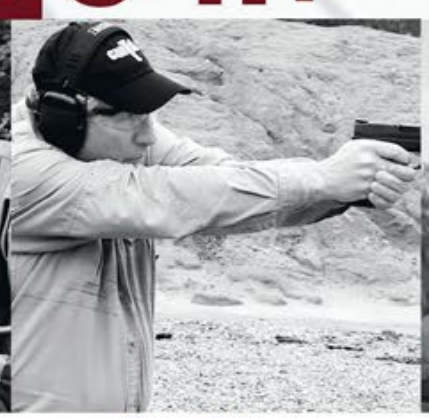

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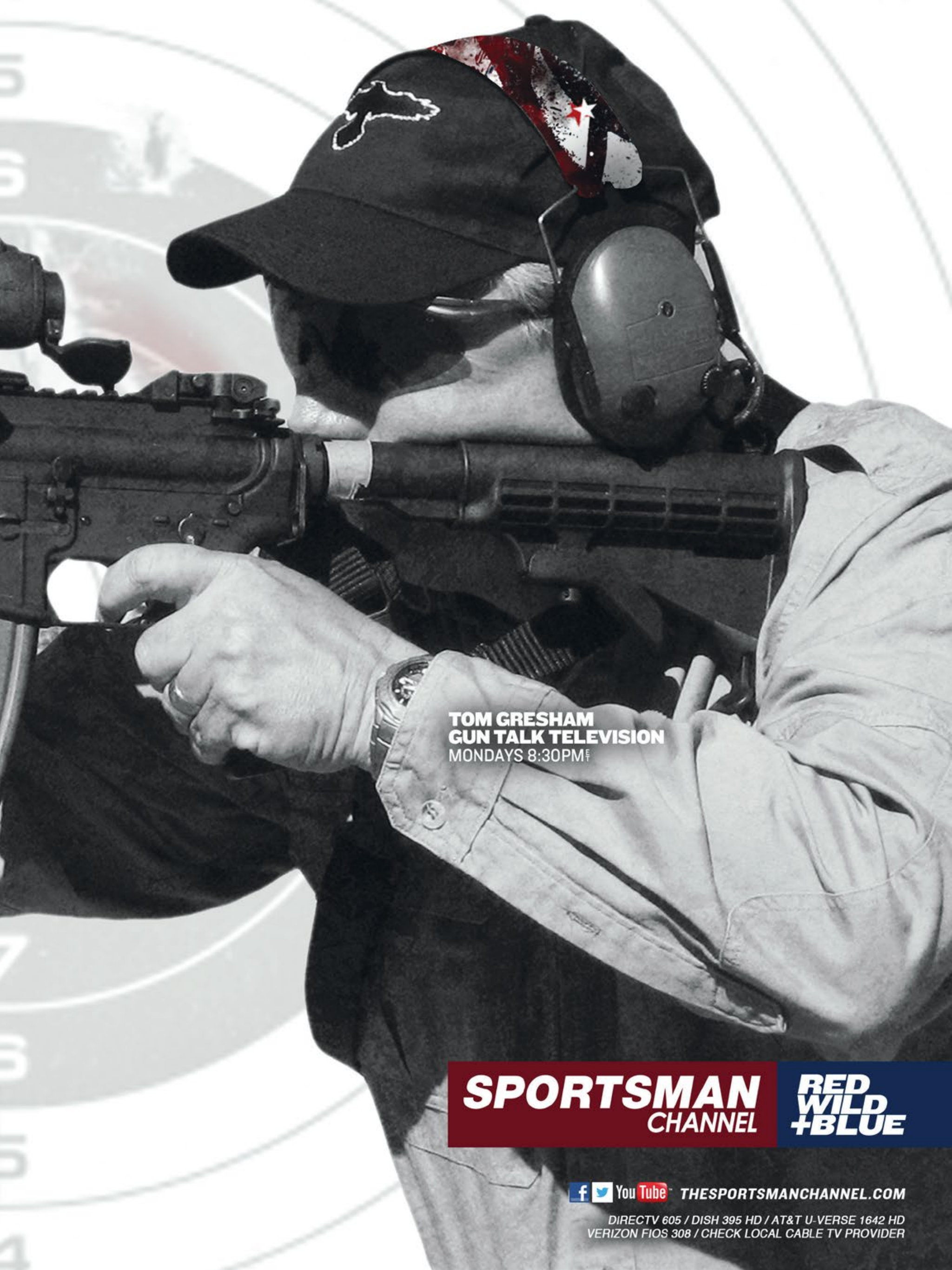
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# SLOW BURN

## FOR MAXIMUM VELOCITY IN .44 MAGNUM HANDLOADS, THE AUTHOR RECOMMENDS SLOW-BURNING POWDERS.

**BY LAYNE SIMPSON**

**WHEN THE .44 REMINGTON MAGNUM** was introduced in 1955, Hercules 2400 and IMR 4227 soon became the most popular powders for handloads. A military-surplus powder produced by Hercules during the war for the .30 Carbine called H240 was a bit quicker burning than 2400, but it delivered higher velocities and burned cleaner. Unfortunately, Hodgdon's supply was soon exhausted.

Unique was also popular, but a maximum load produced lower velocities than the other powders. It was—and still is—a great choice for reduced-recoil practice loads. For a while .44 Magnum cases were not easy to come by, so the only shooter I knew who owned a revolver chambered for it at the time mostly used .44 Special cases. His favorite load was 7.5 grains of Unique and bullets cast in a Lyman No. 429360 mold.

A couple of shooting buddies and I caught the .44 Magnum fever soon after Ruger introduced its single-action Super Blackhawk in 1960. They bought Super Blackhawks, but after comparing trigger quality, I scraped up the additional $25 for an S&W Model 29 with a 6.5-inch barrel. It also had better sights and proved to be a bit more accurate as well.

LEAD PHOTO BY **MICHAEL ANSCHUETZ**

The first bullet I loaded in the .44 Magnum was the Lyman No. 429421. Its weight averaged 256 grains when cast of scrap wheel-weight metal. The Lyman reloading manual on my loading bench listed 23.0 grains of 2400 as maximum for a velocity of 1,460 fps. I eventually settled on a grain less for that first Model 29.

## Powders

I have been loading IMR 4227 in the .44 Magnum almost as long as 2400 and found its burn rate to be the same as H4227. When Hodgdon introduced H4227 during the 1950s, it was military surplus made by DuPont and therefore the same powder DuPont had been selling as IMR 4227 since 1935. When the supply of surplus powder ran out during the 1960s, Hodgdon turned to Nobel of Scotland for a fresh supply made to the same specifications. H4227 was officially discontinued in 2009, but shipments continued for quite some time until the supply was exhausted. It is still occasionally seen on gun-shop shelves. Ron Reiber, product manager at Hodgdon, says load data for IMR 4227 and H4227 are interchangeable, but as it goes with different manufacturing lots of any powder, maximum loads may or may not be the same. IMR 4227 and H4227 rank among the best at delivering low velocity spreads.


## S&W Model 629 .44 Magnum Hunter

YOU MIGHT WANT A NEW .44 MAGNUM REVOLVER TO put Layne Simpson's handloading tips to good use. One of the newest is S&W's Model 629 .44 Magnum Hunter. It comes from the Performance Center, and it's specially designed for the purpose of hunting big game.

It's a Performance Center gun, so it has a tuned action, and it's one of the slickest, smoothest revolver triggers I've ever squeezed. My sample averaged 3.0 pounds, 12 ounces with 4 ounces of variation over 10 pulls single action and 12 pounds, 8 ounces double action.

The Model 629 .44 Magnum Hunter comes with an adjustable rear sight and a dovetailed red ramp front sight, plus it has a slotted scope rail on the barrel for mounting an optical sight. In fact, the gun comes from S&W with a UTG red/green electronic dot sight.

Speaking of the gun's barrel, this tube is 7.5 inches long and features an extremely effective muzzle brake.

The Model 629 .44 Magnum Hunter is all stainless steel, but the frame and parts of the barrel have a blackened finish. The tear-drop-shaped hammer and smooth trigger are chrome. The cylinder, ejector rod, barrel flats, cylinder thumbpiece, and muzzle brake are natural stainless. I think it makes for one really cool-looking handgun.

And it shoots as good as it looks. At 25 yards, my revolver averaged 1.00 inch for 10 five-shot groups with my favorite .44 Magnum hunting handload, which consists of a 300-grain cast bullet pushed by 19.0 grains of H110.

***—Joel J. Hutchcroft***

### MODEL 629 .44 MAGNUM HUNTER

| | |
|---|---|
| **MANUFACTURER** | Smith & Wesson<br>smith-wesson.com |
| **TYPE** | Double-action revolver |
| **CALIBER** | .44 Magnum |
| **CYLINDER CAPACITY** | 6 rounds |
| **BARREL LENGTH** | 7.5 in. |
| **OVERALL LENGTH** | 14 in. |
| **WIDTH** | 1.71 in. (cylinder) |
| **HEIGHT** | 6.0 in. (without optic) |
| **WEIGHT, EMPTY** | 58 oz. |
| **STOCKS** | Synthetic |
| **FINISH** | Blackened stainless steel |
| **SIGHTS** | Adjustable rear, red ramp front (UTG red/green electronic dot sight included) |
| **TRIGGER** | 12.5-lb. DA pull,<br>3.75-lb. SA pull (as tested) |
| **PRICE** | $1,369 |


Accurate 4100 and Ramshot Enforcer are the same powder, and while formulated to deliver the same performance as W296/H110, they are made to different specifications, so load data are not interchangeable. IMR 4227 and H4227 were made by different manufacturers but to the same specifications, making load data interchangeable between the two.

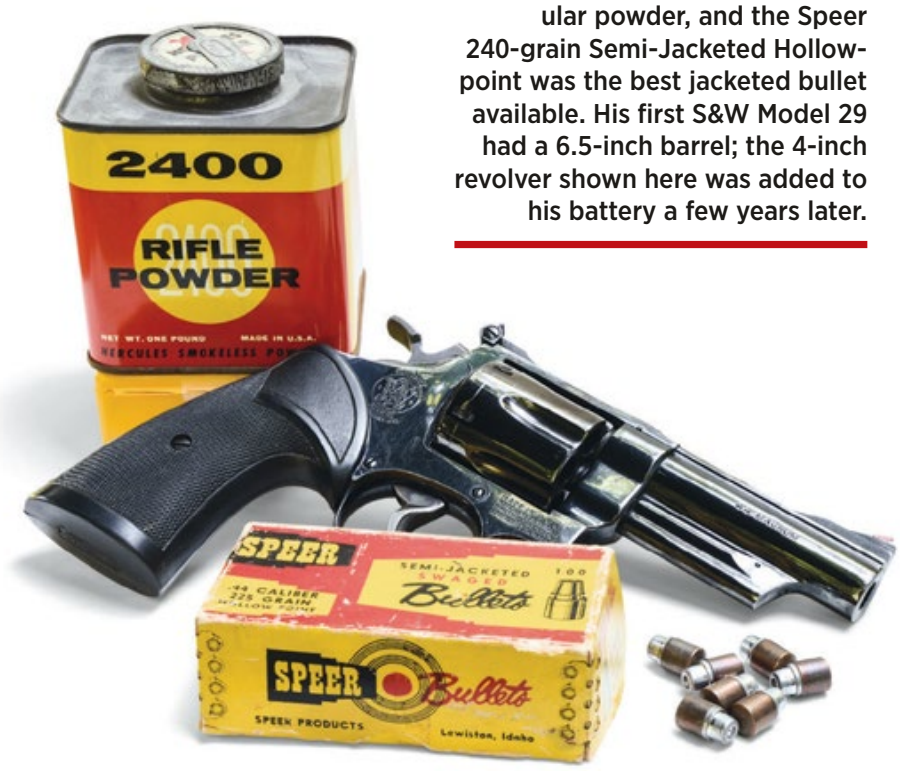
During the early 1960s Hodgdon introduced H110, a military-surplus powder developed by Olin/Winchester during World War II for the .30 Carbine. About 10 years later Winchester made fresh batches of the same powder available to handloaders as W296. When Hodgdon's supply of war-surplus powder was exhausted, the company turned to the Olin Corporation Powder Operations in St. Marks, Florida, where it was still being made. Winchester powders were—and still are—also made there. That plant, by the way, continues to produce tons of spherical powder each year, but it is now called St. Marks Powder and is owned by General Dynamics.

During a visit to the Olin powder factory years ago, I learned that W296 and H110 were the same powder. The information was later included in an article on handloading the .44 Magnum. I went on to say that any chamber pressure/velocity differences between the two are due to slight burn rate variations from one manufacturing lot to the next. That explained differing maximum charge weights published for the two powders in various reloading manuals.

That was back in the days when people wrote letters, and a reader took me to task for my statement. In an attempt to prove me wrong, he contacted Hodgdon and Winchester. Of course, representatives from both companies did not give him the answer he was searching for. They refused to comment simply because in those days they were competitors. Now that both powders are under the Hodgdon umbrella, Reiber willingly confirms that W296 and H110 are indeed the same powder. If the guy who wrote that nasty letter about three decades ago is still capable of reading small print and has a copy of Hodgdon's latest *Annual Manual*, he may see that listed charge weights, velocities, and pressures for the two powders are identical.

The containers of Accurate 4100 and Ramshot Enforcer have different exterior appearances, but according to my contact at Western Powders, they contain the same powder. He went on to say that while the powder is formulated to deliver the same performance as W296/H110, it is made to slightly different specifications, and load data are not interchangeable.

Then we have Alliant Power Pro 300-MP. Like W296/H110, it is a double-base spherical propellant made at St. Marks. According to my Redding 10X powder measure, gravimetric




When the author began handloading the .44 Magnum cartridge in the early 1960s, Hercules (now Alliant) 2400 was the most popular powder, and the Speer 240-grain Semi-Jacketed Hollow-point was the best jacketed bullet available. His first S&W Model 29 had a 6.5-inch barrel; the 4-inch revolver shown here was added to his battery a few years later.


H110 and W296 have always been the same powder with different names. They and Alliant Power Pro 300-MP are spherical powders with similar slow burn rates.

Guns used for the velocity comparison were a Mag-na-port custom Ruger Super Blackhawk with 4.63-inch barrel (top), a Winchester Model 92 with 20-inch barrel (center), and a Ruger Super Blackhawk Hunter with 7.5-inch barrel (bottom).

## Redding Three-Die Set

WHEN PREPARING HANDloads for this project, I used three dies from Redding. With a single carbide ring located at its mouth, a standard full-length resizing die resizes a case the same diameter over most of its length. The carbide ring at the mouth of Redding's Dual Ring die reduces case diameter just enough for smooth entry into the chambers of a revolver while a smaller-diameter carbide ring positioned deeper in the body of the die squeezes down the front section of the case a bit more. Adequate case tension is applied to the bullet, while excessive sizing of the rest of the case is avoided. The result should be longer case life, but I have not had the die long enough to confirm that.

The Competition Bullet Seating die is a good idea for those who load a variety of different bullets. Once the correct overall length is established for a particular bullet, the die setting is recorded and later referred to when that bullet is again used.

Applying a hard crimp is important for both reliable and uniform ignition of slow-burning powders and to prevent excessive bullet creep during recoil. The Profile Crimp die applies a roll crimp to the mouth of a case and a taper crimp immediately behind it. According to Redding, round-to-round bullet pull is more uniform.

***—Layne Simpson***

density of the two powders is the same. Coloration differs a bit, but otherwise the flattened balls of propellant appear quite similar in diameter mix. But is the new powder the same as W296/H110? Based on my limited experience with it, I will have to say it is likely built to slightly different specifications, but the two powders are darned close in performance.

Sometimes Power Pro 300-MP seems a bit slower burning than W296/H110, but at other times it appears a tad faster. Its charge weight to velocity ratio varies as bullet weight and barrel length vary. As can be seen in the accompanying chart, it took a grain more behind the 240-grain Sierra bullet to reach velocities comparable to those produced by W296. Two additional grains behind the 300-grain Swift A-Frame produced about 100 fps higher velocities than W296 in the two shorter barrels, but velocity was a bit lower in the 20-inch barrel.

### Primers

Then there is the matter of primer suitability. Most handloaders who use W296/H110 know that a magnum primer is recommended for uniform ignition. This holds especially true under frigid ambient conditions. The same applies to Accurate 4100 and Enforcer powders. In the .44 Magnum data section of the *Reloader's Guide* published by Alliant, the standard CCI 300 primer was used with all powders except Power Pro 300-MP. When first learning of the new powder, I assumed it would require the use of a magnum primer, such as CCI 350 or Federal 155. The Alliant data uses Federal 150 instead. While Federal 150 is rated a bit hotter than CCI 300, it is not rated as hot as CCI 350 and Federal 155.

Do primers make a difference with the new powder? Based on my test results, I will have to say no, with one caveat. As the chart on page 46 shows, there were no appreciable differences

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## SLOW-BURN-POWDER VELOCITY

| BULLET | POWDER (TYPE) | POWDER (GRS.) | 4.63-IN. BARREL VEL. (FPS) | 4.63-IN. BARREL E.S. (FPS) | 7.5-IN. BARREL VEL. (FPS) | 7.5-IN. BARREL E.S. (FPS) | 20-IN. BARREL VEL. (FPS) | 20-IN. BARREL E.S. (FPS) |
|---|---|---|---|---|---|---|---|---|
| .44 Magnum | | | | | | | | |
| Sierra 240-gr. JHC | 2400 | 21.0 | 1141 | 25 | 1312 | 33 | 1686 | 31 |
| Sierra 240-gr. JHC | Enforcer | 22.0 | 1229 | 18 | 1457 | 29 | 1877 | 20 |
| Sierra 240-gr. JHC | VV N110 | 22.0 | 1311 | 36 | 1518 | 20 | 1781 | 30 |
| Sierra 240-gr. JHC | IMR 4227 | 22.5 | 1166 | 12 | 1288 | 31 | 1674 | 28 |
| Sierra 240-gr. JHC | Lil'Gun | 24.0 | 1266 | 31 | 1442 | 46 | 1797 | 58 |
| Sierra 240-gr. JHC | W296 | 24.0 | 1254 | 11 | 1403 | 34 | 1772 | 35 |
| Sierra 240-gr. JHC | 300-MP | 25.0 | 1278 | 41 | 1411 | 49 | 1812 | 54 |
| Sierra 240-gr. JHC | 300-MP | 25.0* | 1289 | 55 | 1438 | 57 | 1805 | 70 |
| Swift 300-gr. A-Frame | 2400 | 18.0 | 976 | 51 | 1112 | 40 | 1398 | 58 |
| Swift 300-gr. A-Frame | Lil'Gun | 17.5 | 1052 | 40 | 1156 | 67 | 1447 | 51 |
| Swift 300-gr. A-Frame | Enforcer | 18.0 | 1011 | 54 | 1218 | 41 | 1445 | 64 |
| Swift 300-gr. A-Frame | VV N110 | 19.0 | 1135 | 65 | 1209 | 84 | 1459 | 34 |
| Swift 300-gr. A-Frame | W296 | 19.0 | 1105 | 49 | 1197 | 24 | 1482 | 84 |
| Swift 300-gr. A-Frame | IMR 4227 | 21.0 | 1062 | 36 | 1174 | 22 | 1422 | 55 |
| Swift 300-gr. A-Frame | 300-MP | 21.0 | 1138 | 39 | 1244 | 33 | 1410 | 51 |
| Swift 300-gr. A-Frame | 300-MP | 21.0* | 1156 | 52 | 1248 | 47 | 1437 | 64 |

*CCI 300 primer

**NOTES:** Velocity is the average of 10 rounds measured 12 feet from the guns' muzzles. Starline cases were used for all loads. CCI 350 primers were used except where noted. Cartridge overall lengths were 1.595 inches for the Sierra bullet and 1.605 inches for the Swift bullet. Firearms were a Mag-na-port Ruger Super Blackhawk (4.63-inch barrel), a Ruger Super Blackhawk Hunter (7.5-inch barrel), and a Winchester Model 92 (20-inch barrel).

All load data should be used with caution. Always start with reduced loads first and make sure they are safe in each of your guns before proceeding to the high test loads listed. Since *Shooting Times* has no control over your choice of components, guns, or actual loadings, neither *Shooting Times* nor the various firearms and components manufacturers assume any responsibility for the use of this data.

in velocity when the standard CCI 300 and the magnum CCI 350 primers were used. But ambient temperature during my chronograph session was 82 degrees. The answer to the question of whether or not velocities with the two types of primers will be as close during extremely cold weather will have to wait until winter.

### Other Considerations

When loading the slow burners, keep in mind that, as a rule, ignition is more reliable and burn is more complete when they are compressed by a seated bullet. These are not the powders to use for reduced-velocity loads. Moreover, handloaders are cautioned against using less powder than the starting charge shown in reloading manuals. With some of these powders there is not a lot of distance between start charge and max charge. For 240- and 300-grain jacketed bullets, the latest *Hodgdon Annual Manual* shows only 1.0-grain difference between starting and maximum charges of W296/H110. When Winchester made W296 available to handloaders back in the 1970s, load data published by the company had only one charge listed for each bullet weight, and it warned against any reduction in charge weight.

Velocity comparisons were my objective during this project, so I did not shoot for accuracy. I have burned enough of the slow burners through the years to already know that any good revolver will shoot good bullets inside 4 inches at 50 yards with either of them, and some will beat that by an inch or so. The current Winchester Model 1892 and the Ruger Model 77/44 are capable of shooting inside 2 inches at 50 yards. Accuracy among the powders may vary a bit from gun to gun, but it is seldom enough to make a difference on the vital area of a whitetail buck standing 125 long paces from the muzzle.

Muzzle flash from Lil'Gun in the 4.63-inch barrel was something to behold, and Power Pro 300-MP was close behind. No muzzle flash was observed from either of those two powders when shot in the longer barrels. Neither of the other powders produced noticeable muzzle flash from the three barrel lengths.

Faster-burning powders are better for practice loads in the .44 Magnum, but for maximum velocities the slowpokes get the nod. ST

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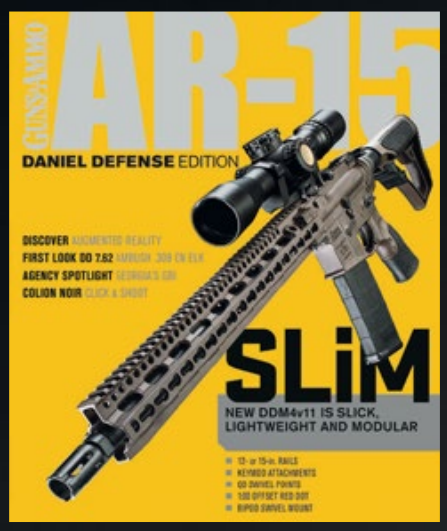


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THE NEW MODEL 555 OVER-UNDER IS A NO-NONSENSE WORKING GUN WITH FEW FRILLS BUT WITH PLENTY OF PRACTICAL FEATURES AND A LOT OF INHERENT VALUE.

BY STEVE GASH

STEVENS FIREARMS HAVE BEEN GOING STRONG for 150 years. Joshua Stevens and two backers, James Taylor and W.B. Fay, founded J. Stevens & Co. in the "gun valley" near Chicopee Falls, Massachusetts, in 1864. The firm's first product was a single-shot pistol with a tip-up action. The company ultimately produced a variety of iconic firearms, such as a line of falling-block rifles marketed under such colorful names as "Crack Shot," "Favorite," and "Little Scout." Also produced was an eclectic array of odd-ball cartridges, including the .25 Stevens, .25 Stevens Short, .25-21, .21-21, and .25-25.


Savage Arms purchased the firm in 1920, and the Stevens brand has flourished for decades under the Savage banner. Stevens always had a reputation for producing economical but well-built arms, and that tradition continues today. The new Model 555 over-under shotgun is true to that tradition.

## Model 555 Features

The Model 555 is made in Turkey. Many firearms "manufacturers" in Turkey are really just assemblers, but the company building the Model 555 manufactures the components for its guns, so it has complete control over things from start to finish. As we well know, the quality of Turkish guns ranges from delightful to deplorable. I am happy to report that the new Model 555 is delightful.

The Model 555 is offered in 12 and 20 gauges. The gun has a lightweight aluminum-alloy receiver with a unique steel insert centered right over the firing pin holes that reinforces the standing breech. The result is a delightfully lightweight and handy shotgun that will handle any load.

*Shooting Times* received one of each gauge for review. The 12-gauge Model 555 weighed only 6.5 pounds, and the 20 gauge was an even lighter 5.5 pounds. The action depth is shallow, as the barrels hinge on steel trunnions instead of a full-length hinge pin. The safety is manual (which I like) and incorporates the barrel selector. The trigger is mechanical, so if barrel one doesn't go off, just squeeze the trigger again for barrel two.

Speaking of the trigger, the ones on the Model 555s I test-fired for this report are about as good as I've ever encountered. They are nice and crisp and have just the right pull weights for field shooting. The 20 gauge's trigger broke at a bit over 5 pounds, and the 12 gauge's measured about 6.5 pounds.

The Model 555 has a sturdy extractor that elevates both shells, either loaded or empty, high enough for easy removal

LEAD PHOTO BY **MICHAEL ANSCHUETZ**

The featherweight Stevens Model 555 is made in Turkey in either 12 or 20 gauge. The 12-gauge gun comes with 28-inch barrels, whereas the 20-gauge version comes with 26-inch barrels.

and allows handloaders to easily salvage every empty. Significantly, the actions are sized for their respective gauges; there's no "one size fits all" philosophy here.

The finish on the alloy receiver is a lustrous matte black that is very uniform and meshes well with the matte bluing on the steel barrels. All in all, it makes for a very attractive finish.

The barrel lengths are 26 inches for the 20 and a nominal 28 inches for the 12 (the 12-gauge barrels actually measured 27.875 inches). They are topped off with a raised 0.275-inch ventilated rib and have a brass bead front sight. Ventilated side ribs add a touch of class and functional barrel cooling. The 3-inch chambers and bores are chrome lined, and a set of five screw-in choke tubes (C, IC, M, IM, F) is included.

Whenever I touch the metal part of a gun, I am reminded of what my old friend Myron Feemster used to say: "Ya know why they put wood on a gun? *For a handle*!" Well, the "handles" on the Model 555s are pretty nice (with one exception, which I'll get to shortly). Crafted of Turkish walnut, they sport fine checkering that is 18 lines per inch, and there is adequate coverage on the fore-end and pistol grip for a good handhold when shooting. The stocks on *ST*'s sample guns show a modicum of figure and have a nice semigloss oil finish.

I think the stock dimensions will be just about right for a lot of shooters. When I first shouldered the 20 gauge, I was sure the drop was too great. As it turned out, both guns hit right where I was looking.

## MODEL 555

| | |
|---|---|
| **IMPORTER** | Savage Arms Co. savagearms.com |
| **TYPE** | Over-under |
| **GAUGES** | 12, 20 |
| **BARRELS** | 26 in. (20 ga.), 28 in. (12 ga.) |
| **OVERALL LENGTH** | 44.88 in. (28-in. barrels) |
| **WEIGHT** | 5.5 lbs. (20 ga.), 6.5 lbs. (12 ga.) |
| **STOCK** | Turkish walnut with 0.25-in. recoil pad and 18-lpi checkering |
| **LENGTH OF PULL** | 14.25 in. |
| **FINISH** | Matte black receiver, matte blued barrels, oil-finished wood |
| **SIGHTS** | Raised vent rib; brass bead (0.105 in.) |
| **TRIGGER** | First pull, 6.53 lbs.; second pull, 6.46 lbs. (12 ga.); first pull, 5.59 lbs.; second pull, 5.06 lbs. (20 ga.) |
| **SAFETY** | Two position |
| **PRICE** | $692 |

The aluminum-alloy receiver is finished in matte black, the single trigger is mechanical, and the safety is not automatic. The Turkish walnut buttstock comes with a 0.25-inch recoil pad and 18-lpi checkering on the grip.

## Range & Field Performance

For testing, I rounded up a passel of factory loads and a few of my favorite handloads and headed to my shooting range. I also shot a few representative loads on my steel pattern plate. The patterns from both the 20- and 12-gauge versions were very evenly distributed, and the points of impact were pretty much dead center, so these 50-50 patterns make them eminently suitable for their intended role as field guns.

As expected, all loads functioned perfectly, and there were no malfunctions of any kind. Also as expected, the heavier loads kicked like an irate wildebeest in the lightweight guns. (Note to Self: Avoid 3-inch loads whenever possible!)

The dove and teal seasons were open during my tests, so I hunted local feed fields for doves and my pond for teal. While I'd like to report that I slew a slew of doves and brought down a bunch of the tasty little webfoots, alas, I cannot. Only a brace of doves was taken, and the shifty little ducks simply refused to participate in my "field tests." I can truthfully state, however, that I never missed a shot at a teal!

While the two Model 555 O-Us were plenty serviceable field guns, they were not without their foibles. Straight from the box, the 20 gauge had a substantial accumulation of scaly, orange rust on the breech, extractor, and inside the rear of the chambers. Some 0000 steel wool, Hoppe's No. 9, and plenty of elbow grease removed it, but a slight stain remained on those metal parts.

On the 12 gauge, the stock finish on the top left edge of the fore-end was subpar. The wood pores were not well filled; consequently, the stock finish was uneven, and the unfilled pores looked like little black specks on the surface of the finish. These things are purely aesthetic and do not affect functioning.

More significantly, the fore-end latch on the 12-gauge model sometimes failed to engage and properly secure the fore-end; it looked latched, but wasn't. If it didn't latch, when the action was opened, the barrels would fall off the receiver. A couple of deft stokes with a flat needle file would easily fix this, but all such issues should have been caught at the final inspection.

While there are a couple of rough spots here and there, the Model 555 is just right for scattergunners looking for an economical yet quality fowling piece to ply the uplands. Lightweight, well balanced, and 100 percent reliable, the new Model 555 is just the ticket for outings with your favorite bird dog. And with an MSRP of only $692, it represents an excellent value at a very reasonable cost. ST


The author found the Stevens Model 555 in both 12 and 20 gauge to be a delight to use in the field. It produced excellent patterns at the patterning board and didn't miss a lick when afield, regardless of the ammo used. It handled all loads, from the light 3/4-ounce "Trainer" to the heaviest 3-inch magnum steel shot loads.


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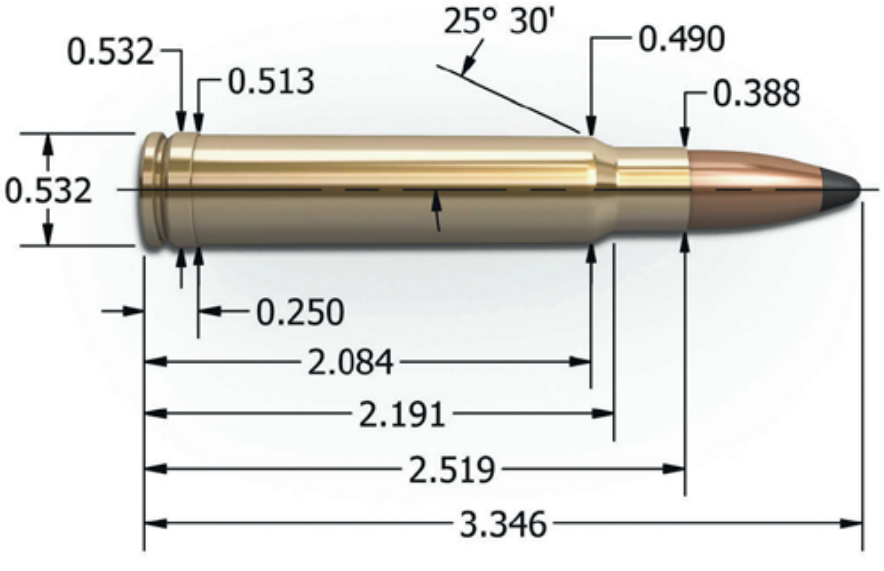
# SURVIVOR

## AGAINST ALL ODDS, THE **.358 NORMA MAGNUM** HAS SURVIVED FOR 55 YEARS.

**BY TERRY WIELAND**

IN 1959 NORMA PRECISION OF SWEDEN UNVEILED THE .358 Norma Magnum. It was a short, belted magnum of the fashion then prevalent, based on the .375 H&H case, shortened and blown out.

Unfortunately for the .358 Norma, the .338 Winchester Magnum had been introduced a year earlier and was instantly popular, going on to be one of the great cartridge success stories of the 20th century. Placed side by side, the .338 Win. Mag. and the .358 Norma are almost identical but for 0.02 inch difference in bullet diameter. That's the thickness of two standard business cards, a difference almost imperceptible to the naked eye. So the .358 Norma Magnum—every bit as good as the .338 Win. Mag. and in some ways a little better—languished, lurching from one unsuccessful rebirth to another, and simply never made it on American shores. Since its introduction, it has been the subject of articles like this one, extolling its virtues and lamenting its fate.




**According to the author, for the mountains, distances, and big tough animals of Alaska and the Yukon, there is no better overall cartridge than the .358 Norma Magnum. None.**

### Better Than the .338

Various theories have been offered for the .358 Norma's lack of success. Foremost was the fact that when it was announced no factory rifle was yet available. Norma released the cartridge to the marketplace with brass, dies, reamers, and specs for gunsmiths. Factory rifles eventually appeared, but they were either exotic or expensive; the Danish Schultz & Larsen, the Belgian-made Browning High Power, and the Swedish Husqvarna are examples.

Conversely, the .338 Win. Mag.'s home rifle was the Pre-'64 Winchester Model 70. The Model 70 was—and still is—an American icon that was top notch, affordable, and readily available. In addition, a host of rifles from other makers soon followed.

The .358 Norma was not without its advantages. In 1960 there were far more .358-inch bullets than .338s available for handloaders, and that situation really hasn't changed. The .35 caliber had been an American standard for half a century, and there were jacketed hunting bullets in a variety of weights to suit everything from the .35 Remington up to the .35 Whelen and .35 Winchester. A wide variety of bullet molds for casting lead bullets was available, and for practice or small-game loads, you could even use cast or jacketed bullets intended for the .357 Magnum.

The .338 Win. Mag. was modeled on the British .333 Jeffery and was an unusual caliber in America. However, bullet and ammomakers lost no time. Soon Sierra, Speer, Hornady, and Nosler offered high-quality hunting bullets, ranging in weight from 180 to 300 grains.

Factory ammunition was a different story. Right out of the gate, the .338 Win. Mag. was ahead by a length and increasing its lead. Winchester alone offered three bullet weights in factory loads (200, 250, and 300 grains). Norma offered its .358 in only one bullet weight—250 grains—and those early Norma bullets were nothing to write home about.

CARTRIDGE DRAWING **COURTESY OF NOSLER** + MOOSE ILLUSTRATIONS **©YURIKS // FOTOLIA.COM**

The .358 Norma Magnum's (center) chief rivals have always been the .338 Winchester Magnum (left) and the .375 H&H (right).

## Favored in the Yukon

None of this is news. What is news is that it's now 55 years later and not only are we still writing about the .358 Norma, but also the company has both brass and ammunition available, and rifles in the chambering are highly coveted in some circles.

The cartridge managed to gain a toehold for some widely different uses. For instance, during the 1970s it gained a reputation as a sniper rifle for SWAT teams. Norma persuaded some European makers of paramilitary rifles to chamber it. For shooting through plate glass or disabling cars, the .358 Norma was ideal.

Also, a dedicated enclave of .358 Norma lovers was Canada's Yukon Territory. From the beginning, the most prominent rifle offered in .358 Norma was the Schultz & Larsen, an expensive premium rifle in a class with the Weatherby Mark V, and these Yukon hunters embraced the Schultz & Larsen. (They also accepted the S&L rifle in its original 7x61 Sharpe & Hart chambering.) Whatever the reason, to this day there are hunters of moose and grizzly in the Yukon who swear by the .358 Norma and refuse to part with their Schultz & Larsen rifles.

Alaska was reputed to have the highest per capita ownership of .375 Holland & Holland rifles, cherished by guides and by anyone living in close proximity to the coastal brown bears. This began to change after the .338 Win. Mag. was introduced, and it gained momentum in the 1980s when an Anchorage gun dealer began offering the Ruger Model 77 in .338 Win. Mag. at almost "disposable commodity" prices. A guide could buy a new rifle every couple of years and not worry too much about the inevitable rust.

What accounts for the different preferences of Yukon and Alaskan hunters? Alaskan hunters always have to consider the big bears in the coastal alders, while in the Yukon, moose are the major game animal.

Since its introduction, the .358 Norma has been in and out of the North American market as its parent company made periodic advances and retreats trying to crack the markets for both loaded ammunition and handloading components. At various times, Norma has offered brass, bullets, and powders. Early on, to ensure that handloaders knew Norma brass was Boxer-primed, it included a tiny "Re" on the headstamp to show it was suitable for reloading.

## Overcame Its Drawbacks

Throughout this period, it was an open secret that Norma manufactured the Weatherby ammunition, which was always regarded as first-rate. This certainly helped Norma's reputation. Norma brass was acknowledged to be excellent, and its powders always had fans. The original Norma MRP, introduced in the 1980s, was a favorite for magnum cartridges.

But Norma had two problems to overcome. One was finding, and keeping, a good importer who would promote the products properly and convince dealers to keep them on their shelves. The second was price. Through the inflationary 1970s and into the '80s, anything made in Europe became increasingly expensive, and Norma gained a reputation for being good but costly. The combination of supply-line inconsistencies and high price was almost insurmountable.

And regarding the .358 Norma cartridge specifically, there was another knock.

Although Norma has been a pioneer in the development of premium and special-purpose bullets for its ammunition, the original bullets loaded in the .358 Norma were not very good by today's standards. The 250-grain semispitzer of the 1970s was too soft, expanded too readily, and did not hold together.

In 1989, hunting nilgai in Texas with a custom .358 Norma built on a Mauser action, I took down a big bull with one shot using one of the original Trophy Bonded Bear Claw bullets. At about 90 yards, the bullet hit the animal on the inside far shoulder. He hit the ground with a loud thump and never moved.

For bullet-testing purposes, we then propped up the carcass and shot it several more times. One of the cartridges tested was a Norma factory round and that bullet—what little we recovered—was in shards. Penetration was minimal and weight retention nonexistent. At greater distances and lower velocities, the bullet was acceptable, but you would not want it on an incoming grizzly at 10 yards.

Norma realized the problem and went to great lengths in later years to load its cartridge with better bullets, but it was one more item that counted against the .358 Norma in its uphill battle with the .338 Win. Mag.

## Great for Handloading

Ballistically, the .358 Norma can be made to equal the .375 H&H at the high end (with up to 300-grain bullets) and duplicate the smaller .35s, such as the .35 Remington, at the low end. One can even go lower, to plinking and small-game loads, using cast bullets or jacketed ones intended for the .357 Magnum.

Of course, one cannot equal the .375 with 350-grain bullets, so saying the .358 will match the larger cartridge in every way is simply not true. What is true, however, is that the .358 Norma is considerably more versatile than the .375 (above) and the .338 (below) by dint of the wonderful array of bullets and powders available.

To this I should add that the .358 Norma is one of the most amiable cartridges for handloading ever designed. It's like a big, friendly golden retriever that seems anxious to please, delivering good to excellent accuracy with just about everything while exhibiting no pressure problems or fits of temperament and capable of all the power (and then some) the average North American hunter could want.

Currently, loading dies are readily available, and data is included in many new manuals. That fact gives some indication of the interest in the cartridge.

I will admit that the .358 Norma would not be my choice for Africa, not because it lacks the capability, but because if your ammunition gets lost along the way, finding replacement loads would be impossible. But that is the only reason. If ammunition were available in Africa, it would be the ideal all-around cartridge for everything except thick-skinned dangerous game.

Advertised performance of the original .358 Norma factory ammunition was a 250-grain bullet at 2,790 fps. Chronographed from my Schultz & Larsen with its 23-inch barrel, older factory ammunition delivered 2,722 fps, and new loads, with Norma's 250-grain Oryx (bonded) bullet, averaged 2,680 fps. Contrary to its normal practice of using long test barrels, Norma's original promotional literature pointed out that published ballistics were measured using a 23-inch barrel.

Since the .358 Norma has always been a handloader's cartridge, factory performance is not critical, and it is easy to achieve the original advertised ballistics. *Lyman Reloading Handbook, 45th Edition* (1970) even gives loads with IMR 4350 that exceed the original velocity, although later manuals reduce the maximum by several grains.


**In its efforts to crack the American market, Norma left no stone unturned. The "Re" in the headstamp means "reloadable" to let Americans know the brass was Boxer-primed.**

If you feel you absolutely have to have 2,800 fps with a 250-grain bullet, it is within reach without too much difficulty. It is interesting to note that three different manuals, giving loads for IMR 4350 with a 250-grain bullet, have maximums varying from 71.5 grains (Swift) to 76.0 grains (*Speer Reloading Manual #14*) to 79.5 grains (Lyman).

Obviously, since many .358 Norma rifles were custom-made, with who knows what chamber tolerances and freebore, it is a good idea to start low and work up, carefully observing your brass for symptoms as you go. Personally, I dislike blown primers, stuck bolts, and the whiff of brimstone. It took me years to find a Schultz & Larsen rifle someone was willing to part with, and I don't intend to imperil it through imprudent pursuit of dubious ballistic goals.

By staying well within the published limits and carefully exploring new ones, one can duplicate almost any load one might desire, from the .35 Rem. on up, and also have a lot of fun with practice loads of no recoil and little noise. And even these light loads can have considerable striking power on the other end.

I've included a chart that shows some of the loads developed for my rifle, with bullets ranging from the 125-grain Sierra JHP all the way up to the 280-grain Swift A-Frame. It is not comprehensive by any means because the possibilities are endless with the .358 Norma. The intention is to give anyone handloading for the .358 Norma a place to start in working with any practical bullet weight, especially odd weights not covered in the manuals.

## About the Handloads

SOME COMMENTS ABOUT THE HANDLOADS REPORTED in the accompanying chart are in order.

The starting load for the A5744 powder was developed using the manufacturer's formula for light loads. While velocities varied widely, accuracy was good, delivering a three-shot group under 3.0 inches, using iron sights, at 100 yards. Recoil was nonexistent.

Both the Sierra 125-grain and Speer 158-grain JHPs can be driven at much higher velocities than shown, but neither is intended for higher than magnum handgun velocities. The load with the Speer bullet and SR 4759 powder is at the extreme end of the bullet's performance range (comparable to maximum .357 Maximum loads), but it is very accurate and consistent out to 100 yards.

The Sierra 170-grain bullet is intended for handgun competition. If you need a good load for fur-bearing animals in the .358 Norma (unlikely, I know), this would be the bullet. And it is just fun to shoot.

The Speer 180-grain FP has been around since the 1950s and is intended for loading in the .35 Remington for rifles with tubular magazines. In the .358 Norma, it can be loaded to very high velocities, and it delivers remarkable consistency and excellent accuracy. The starting load was taken from the *Speer Reloading Manual #7*, with help from Hodgdon Product Manager Ron Reiber. It's a first-rate long-range deer load for the .358 Norma.

The load with the 200-grain cast bullet and 18.0 grains of Unique is strictly a starting load, but it's one that delivered astonishing consistency combined with very erratic accuracy—evidence that low extreme spreads do not guarantee good accuracy.

The Sierra 200-grain RN is a .35 Remington bullet, loaded to extremely low levels. The starting load was too light and failed to give a good gas seal. It produced terrible consistency. Upping the charge to 48.0 grains improved the results considerably. Between 48.0 and 54.0 grains, one should be able to find an accurate load that duplicates .35 Remington performance.


1. Sierra 125-Gr. JHP
2. Sierra 170-Gr. FMJ
3. Speer 180-Gr. FN
4. Cast 200-Gr. LRN
5. Sierra 200-Gr. RN

The Nosler 225-grain Partition bullet performs so well that it could have been designed to take advantage of the .358 Norma's long-range potential on everything up to elk and moose.

The 225-grain SBT bullet was developed by Sierra specifically for the .35 Whelen. It is extremely accurate. At a muzzle velocity of 2,750 fps, there were no signs of high pressure, and recoil was comfortable. This would be an excellent long-range deer load.

The 250-grain Oryx bullet over 77.0 grains of IMR 4350 duplicates Norma's factory load with no adverse pressure signs.

The Swift 280-grain A-Frame moves the .358 Norma into the heavyweight division in every way, and it is possible to push it past 2,500 fps.

***—Terry Wieland***

## .358 NORMA MAGNUM HANDLOAD DATA

| BULLET | POWDER (TYPE) | POWDER (GRS.) | PRIMER | VEL. (FPS) | E.S. (FPS) | S.D. (FPS) |
|---|---|---|---|---|---|---|
| **Schultz & Larsen Model 65DL, 23-in. Barrel** | | | | | | |
| Sierra 125-gr. JHP | A5744 | 30.0 | Fed. 210M | 1717 | 123 | 61 |
| Speer 158-gr. JHP | SR 4759 | 32.0 | Fed. 210M | 2031 | 65 | 25 |
| Sierra 170-gr. FMJ | SR 4759 | 30.0 | Fed. 210M | 1800 | 143 | 72 |
| Speer 180-gr. FP | H4895 | 70.0 | Fed. 210M | 3076 | 7 | 4 |
| Speer 180-gr. FP | H4895 | 75.0 | Fed. 210M | 3294 | 8 | 4 |
| Cast 200-gr. LRN* | Unique | 18.0 | Fed. 210M | 1679 | 2 | 1 |
| Sierra 200-gr. RN | H4895 | 42.0 | Fed. 210M | 1809 | 247 | 124 |
| Sierra 200-gr. RN | H4895 | 48.0 | Fed. 210M | 2063 | 35 | 17 |
| Sierra 200-gr. RN | H4895 | 54.0 | Fed. 210M | 2255 | 60 | 30 |
| Nosler 225-gr. Partition | IMR 4350 | 76.0 | Fed. 215M | 2758 | 43 | 21 |
| Sierra 225-gr. SBT | H4895 | 66.0 | Fed. 215M | 2787 | 82 | 41 |
| Norma 250-gr. Oryx | IMR 4350 | 77.0 | Fed. 215M | 2765 | 26 | 13 |
| Swift 280-gr. A-Frame | Reloder 19 | 70.0 | Fed. 215M | 2455 | 13 | 7 |

*With gascheck

**NOTES:** All load data should be used with caution. Always start with reduced loads first and make sure they are safe in each of your guns before proceeding to the high test loads listed. Since *Shooting Times* has no control over your choice of components, guns, or actual loadings, neither *Shooting Times* nor the various firearms and components manufacturers assume any responsibility for the use of this data.

**The .358 Norma (right) can be loaded down to duplicate the performance of smaller .35-caliber cartridges, such as the .35 Remington (left) and the .358 Winchester (center), making it a fine round for hunting whitetails and black bears.**

Speaking of bullet weights, most manufacturers stop at 250 grains. Swift and Woodleigh are exceptions, with 280- and 310-grain offerings.

Because accuracy is such an individual thing, I did not give accuracy figures with any load. Some of them were gratifyingly accurate in my rifle, while others would need some tuning in order to get acceptable accuracy.

A note about my rifle is in order. Schultz & Larsen rifles were not fitted with factory iron sights, and the former owner of my rifle, who hunted Alaska, had a good set of open sights installed. Combined with a detachable scope mount, they allowed him to wander through the alders with a rifle that was very fast into action and suitable for work at the closest ranges.

Accordingly, I have kept the open sights aligned for 250-grain hunting loads. The .358 Norma is so tractable, however, my rifle's sights put almost any load on paper at 100 yards without adjustment. This simplifies life considerably. Also, when working with handgun bullets, shooting at steel plates and so on, iron sights are faster and more instinctive to use. As a matter of interest, the load with 158-grain JHP handgun bullets is dead on at 75 yards with the iron sights set exactly as they are.

This is one more measure of the versatility of a cartridge that against all the odds has survived on sheer merit. Now if only someone would chamber it today! ST


Norma's original spec sheet for the .358 Norma Magnum, published in the early 1960s, says the cartridge produces a muzzle energy of 4,322 ft-lbs and is great for hunting big game. It has survived for 55 years because it's extremely versatile.

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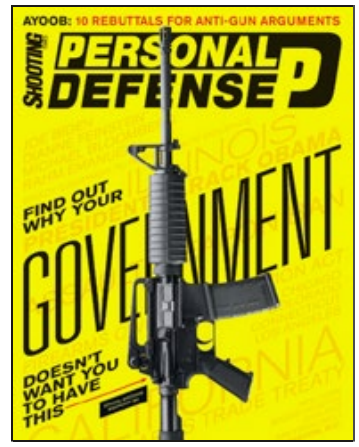
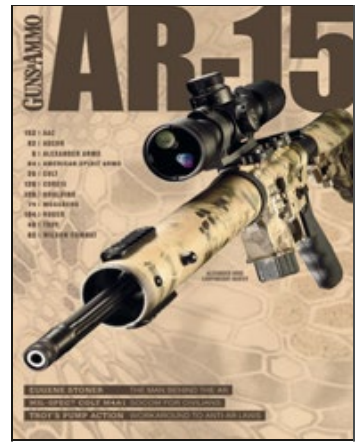







# IMPINGED!

## RUGER'S NEW DIRECT IMPINGEMENT AR IS PRICED RIGHT, SHOOTS GREAT, AND COMES WITH A LOT OF WELL-THOUGHT-OUT FEATURES.

**BY JOEL J. HUTCHCROFT**

WHEN RUGER ANNOUNCED ABOUT five years ago that it was making an AR-style rifle, the gun world went wild. That first AR-platform rifle from Ruger (called the SR-556) was a big hit, but because it was a piston gun with a retail price tag of around $2,000, plenty of shooters were reluctant to buy one. Well, now Ruger has brought out a direct impingement AR, and the MSRP is a very reasonable $749. I'll bet a lot of those guys will be ponying up their hard-earned cash for the new Ruger AR-556.

### The Gas System

Obviously, the fact that Ruger is offering a direct impingement AR is big news. When the company brought out its piston-driven AR, every gun writer who thought it was a good thing wrote about the advantages of the piston system, saying things like piston systems tend to be cleaner shooting. They pointed out that with the direct impingement system unburned powder and gases are vented back into the rifle's action, which causes a lot of fouling, sends noxious gases back toward the shooter, and makes the action very hot. With the typical piston-driven system, those hot gases and unburned powder are vented out through the front of the gun.



PHOTOS BY **MICHAEL ANSCHUETZ**


AR-556
FIRE
RUGER
MAYODAN, NC USA
850-03376
PMAG 30

The new AR-556 features a 16.1-inch barrel with a 1:8-inch rifling twist rate, a six-position collapsible M4-style buttstock, an ergonomic pistol grip, and a glass-filled nylon handguard. It's the first model to be built at Ruger's new factory in Mayodan, North Carolina.

A lot of AR aficionados think the direct impingement system is just fine. In fact, they would argue that with the direct impingement system parts tend to last quite a bit longer, as long as the gun is properly cleaned at regular intervals. They would also say that the most accurate ARs have always been direct impingement guns. And they could easily contend that direct impingement guns have softer recoil impulses, tend to be lighter in weight, and generally cost less.

I'm not taking a side in the debate. I'm merely pointing out that there are good arguments for both systems. Either way, Ruger now has ARs with both mechanisms.

The new AR-556's gas system is a mid-length system, in keeping with its carbine-length barrel (more about the barrel in moment). The milled gas block is described as an A2, F-height block. It's pinned in place, and it has multiple sling-attachment points and a bayonet lug.

The AR-556's lower receiver is a 7075-T6 aluminum forging. Its finish is Type III hard coat anodized. The trigger guard opening is enlarged.

The flat-top upper receiver is also 7075-T6 aluminum. It has the typical forward assist, dustcover, and brass deflector. The slotted top rail measures 5.5 inches long. And like the lower, the upper receiver wears a Type III hard coat anodized finish.

The bolt is 9310 alloy steel. The bolt carrier group has a staked gas key, a chrome-plated bolt carrier inside diameter, and a chrome-plated gas key inside diameter. External finish is matte black oxide.

## AR-556

| | |
|---|---|
| **MANUFACTURER** | Sturm, Ruger & Co., Inc.<br>ruger.com |
| **TYPE** | Gas-operated autoloader |
| **CALIBER** | .223 Rem./5.56 NATO |
| **MAGAZINE CAPACITY** | 30 rounds |
| **BARREL LENGTH** | 16.1 in.; 1:8 twist |
| **OVERALL LENGTH** | 32.25 to 35.5 in. |
| **WEIGHT, EMPTY** | 6.5 lbs. |
| **STOCK** | Six-position collapsible M4-style buttstock; A2-style pistol grip; glass-filled nylon round handguard |
| **LENGTH OF PULL** | 10.25 to 13.5 in. |
| **FINISH** | Matte black Type III hard coat anodized |
| **SIGHTS** | Windage-adjustable Ruger Rapid Deploy flip-up rear; elevation-adjustable A2-style post front |
| **TRIGGER** | 7.5-lb. pull (as tested), single stage |
| **SAFETY** | Two position |
| **PRICE** | $749 |

The new AR-556 carbine's bolt is made of 9310 alloy steel. The bolt carrier group has a staked gas key, and the exterior finish is matte black oxide while the inside is chrome plated.

## The Barrel

The AR-556's medium-contour barrel is a cold hammer-forged 4140 chrome-moly steel tube with a 5.56 NATO chamber and M4 feedramp cuts. The barrel's diameter is 0.85 inch under the handguard, 0.75 inch under the gas block, and 0.70 inch forward of the gas block. The length is 16.1 inches, and the twist rate is 1:8.

That's going to please a lot of AR shooters because a twist of one turn in 8 inches will stabilize bullets across a wide range of weights. Everything from 35 to 77 grains should shoot pretty well in the 1:8 twist rate. Only the heaviest bullets for this caliber (e.g., 90 grains) probably will not stabilize.

The barrel's finish is matte black oxide, and its muzzle is threaded to 1/2x28. The gun comes with a flashhider that's very much like the ones on Ruger's Gunsite Scout bolt actions and Mini-14 autoloaders. It can be removed and swapped for other muzzle accessories.

The flashhider is similar to those that come on Ruger's Gunsite Scout bolt action and Mini-14 autoloader. It can be swapped out for other muzzle accessories.

## The Buttstock & Grip

The buttstock is the popular M4, six-position, collapsible style. Accordingly, length of pull ranges from 10.25 to 13.5 inches. The buffer tube is mil-spec.

The pistol grip has what Ruger calls an "ergonomic improved trigger reach" grip. Circumference of the grip just below the trigger guard measures 4.60 inches, and the distance from the back of the grip to the trigger is 2.51 inches.

## The Handguard

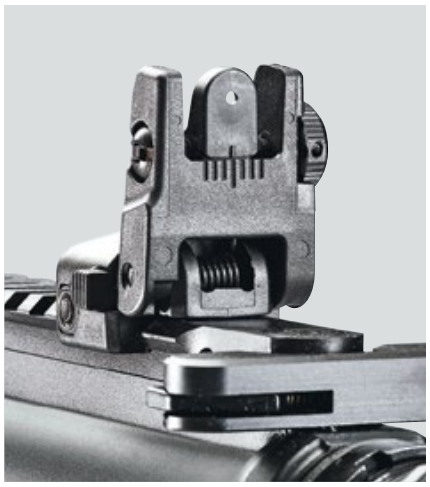
The two-piece handguard is constructed of heat-resistant glass-filled nylon in the traditional round shape. The barrel nut and delta ring are a new patent-pending design that accepts standard carbine-length handguards and uses a standard wrench. It can be swapped out for a mil-spec nut if the owner so desires.

## The Trigger

The trigger on *ST*'s sample AR-556 was good. Ruger has taken some heat in the recent past for the quality of its triggers. Complaints have centered around the triggers being excessively heavy and with lots of creep. The single-stage trigger on the AR-556 I fired for this report was pretty good. Pull weight is a little heavier than I prefer, but it was consistent. It averaged 7 pounds, 8 ounces over 10 measurements. Those values varied 12 ounces across all of those measurements.

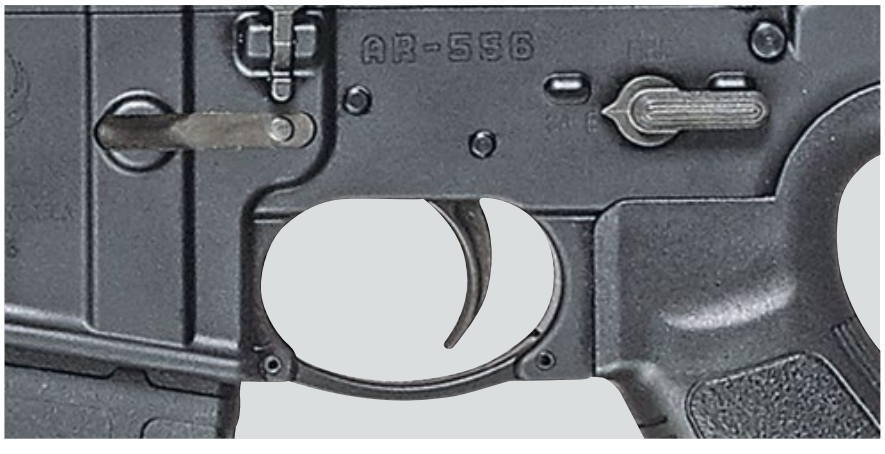
## The Sights

The AR-556 comes with sights. The rear is Ruger's own Rapid Deploy folding sight that's adjustable for windage. It has a peep-type aperture and side protection ears. The front post sight is the classic A2 style, and it's adjustable for elevation.





**The trigger is a single-stage unit. The pull weight of *ST*'s sample averaged 7.5 pounds. The carbine comes with an A2-style post front sight that's adjustable for elevation and a flip-up, windage-adjustable Ruger Rapid Deploy rear sight. One 30-round Magpul PMag polymer magazine comes with the carbine. The trigger guard opening has been enlarged.**

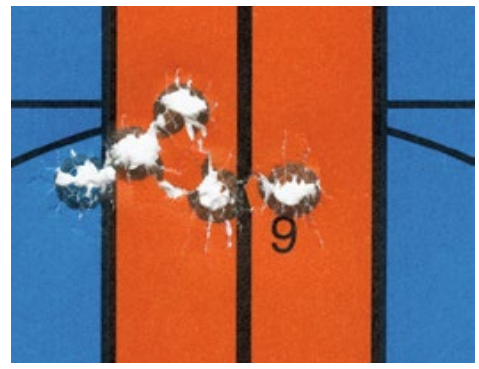


The barrel nut and delta ring are a new patent-pending design that uses a standard wrench.

## RUGER'S AR-556 ACCURACY & VELOCITY

| AMMUNITION | VEL. (FPS) | E.S. (FPS) | S.D. (FPS) | 100-YD. ACC. (IN.) |
|---|---|---|---|---|
| .223 Remington | | | | |
| Black Hills 52-gr. BTHP | 2853 | 43 | 22 | 1.63 |
| Hornady 55-gr. TAP | 2867 | 36 | 16 | 1.65 |
| Remington 55-gr. AccuTip | 2847 | 55 | 26 | 1.63 |
| Winchester 55-gr. Ballistic Silvertip | 2821 | 83 | 41 | 1.38 |
| Black Hills 60-gr. V-Max | 2739 | 40 | 21 | 2.13 |
| Australian Outback 69-gr. MatchKing | 2611 | 23 | 13 | 1.88 |
| Federal 69-gr. Match | 2697 | 54 | 19 | 2.25 |

**NOTES:** Accuracy is the average of six, five-shot groups fired from a sandbag benchrest. Velocity is the average of 10 rounds measured 12 feet from the gun's muzzle.



The best single five-shot 100-yard group came with Black Hills 52-grain Match ammunition (0.95 inch), and the carbine's overall average for seven factory loads ranging in bullet weight from 52 to 69 grains was a very respectable 1.79 inches.

## Caldwell AR Mag Charger

REVIEWING THE .223 RUGER AR-556 GAVE ME THE opportunity to give Caldwell's AR-15 magazine loader a workout. It was introduced during 2014, and I've been wanting to put it to a test ever since I heard about it.

After using it to load more than 500 rounds of ammunition, I have to say I like it. It really made loading my AR magazines a breeze. Here's how it works.

Take 50 rounds directly from any common 50-round ammo box or aftermarket 50-round plastic storage box and place them in the Mag Charger's tray. The tray automatically aligns them for insertion into the magazine. Then insert an AR magazine (I tried an old metal Colt magazine as well as polymer Magpul PMags and Troy BattleMags—they all worked without a glitch) into the Mag Charger like you would into a rifle. Stroke the Mag Charger's plunger back and forth, loading five rounds per stroke, until the magazine is fully loaded. That's all there is to it. The whole process literally takes only seconds to complete. Price: $89.99.

***—Joel J. Hutchcroft***

## Shooting Results

For putting the AR-556 to a shooting test, I picked seven .223 factory loads from six manufacturers, including Australian Outback, Black Hills, Federal, Hornady, Remington, and Winchester, with bullets ranging in weight from 52 grains to 69 grains. The details are listed in the accompanying chart. Overall, the AR-556 averaged 1.79 inches for five-shot groups at 100 yards. Its three-shot overall group average was 0.94 inch. I removed the rear sight and mounted my trusty Nikon M-223 AR 1.5-6X 24mm scope with illuminated reticle in a Nikon one-piece mount for the accuracy shooting session.

Top velocities in the AR-556 came with Black Hills's 52-grain ammo and Hornady's 55-grain TAP load, averaging 2,853 fps and 2,867 fps respectively. No surprises there. What did surprise me, however, was that the most accurate bullet weight was 55 grains. I fired three different brands of 55-grain ammo, and those three loadings averaged 1.55 inches. The most accurate load (Winchester's Ballistic Silvertip) averaged 1.38 inches.

According to Ruger spokesmen, the AR-556 was extensively tested during its development, with over a quarter-million rounds expended during the final validation, endurance, and jury testing. My short time with the new direct impingement carbine, shooting more than 500 rounds for accuracy and function in one afternoon, confirms that Ruger did its due diligence with this gun. I didn't have a single malfunction, accuracy with all bullet weights I fired (from 52 to 69 grains) was very good, and trigger pull was decent. And you sure can't beat its very reasonable MSRP. ST

# #1 Item You Should Be Hoarding...

**Bad news...**

There are some people out there who think folks like you and me are a bit “odd”.

They think having a stockpile ready for a disaster is something they can put off for “someday” or “never”.

But those people are just hiding their heads in the sand. They are dead wrong -- and **you are dead right.**

You’ve seen the evidence and you know the situation is way too serious not to do something about it. When a crisis hits, you’ll be ready. You’ll make darn sure your family won’t go hungry.

The fact is, if you don’t take action or if you stockpile the wrong foods, you could be setting your family up to starve. It sounds harsh, but the truth is too many people with good intentions are making critical mistakes with their food stockpiles.

**MISTAKES LIKE…**

- Buying MREs (meals ready to eat) with a 5 year shelf life (depending on where you buy them, they could be nearly expired)…
- Getting gross survival foods that taste terrible and are so high in salt, MSG and preservatives you could clog your arteries and get yourself sick…
- Or simply buying the wrong foods and leaving a critical hole in your meal plan, which means your family can become malnourished…

Well, I decided to stop worrying. Obviously, waiting for the government to give me a handout in a disaster just wasn’t an option for me. And I was completely turned off by the crazy prices of survival food sold by most stores.

So I got in touch with my buddy Frank Bates and put my order in for his Food4Patriots survival food kits.

**This is Frank’s new line of survival food:**

- **Food4Patriots is an incredible value**. This high quality survival food is without any fillers or poor-quality “franken-food” that the other guys use to pad their survival meals. They are made and packaged right here in the U.S.A. You won’t believe the prices on these kits – a fraction of the price that other brands charge.
- There’s no fancy packaging, it’s military-grade sturdy stuff and can stand up to the crazy things that happen in a crisis. This food has a **shelf life of up to 25 years**, so you have complete peace of mind for the long term. And he’s using the most compact kits so you can store them anywhere in your home without any extra hassle. They’re sturdy, waterproof and stack easily. And extremely covert too.
- You can make these meals in less than 20 minutes; just add boiling water, simmer, and serve. I tried ‘em and I think they **taste as good or better than any other survival food I’ve EVER had.** And you get a whole slew of choices for breakfast, lunch and dinner so you don’t get stuck eating the same thing day-in and day-out.
- Frank has come up with some **impressive FREE bonuses** that are ONLY available to folks who purchase one of his kits on a first-come, first-served basis. For example, my 3-month kit came with 5,400+ heirloom survival seeds, 4 hard copy books, an 11-in-1 survival tool, and some other cool stuff.

*Protect your family in a crisis with 25-year shelf life survival food from getfood40.com*

I want to make sure you don’t miss out on this because **this is the #1 item to hoard today.**

Here’s why… If you don’t take action to get your food stockpile right now, you’ll be in the same boat as the brainwashed masses who think “everything is fine.” And if a crisis hits and your family asks, “What are we going to eat?” your mouth will go dry and you’ll feel powerless.

But what if you decide right now to secure your food stockpile instead? Just **imagine how much better you’ll feel right away.** And if a crisis hits and your family asks, “What are we going to eat?” you’ll calmly reassure them that they’re safe and they will have plenty to eat.

Listen, I can’t predict the future. I don’t know exactly when or how a crisis will hit. But from everything I see, it could be soon and it could be a big one. That’s why I really want you to get the same peace of mind that I do.

*P.S. Got a call from Frank and you’ll never believe who just tried to buy up his entire supply of food! You’ll be shocked!*

**LOG-ON NOW TO GETFOOD40.COM**

# INLINE ACCURACY

HERE'S THE LOWDOWN ON HOW TO GET THE BEST ACCURACY FROM YOUR INLINE MUZZLELOADER. **BY LAYNE SIMPSON**

A **LONGTIME T/C HAWKEN USER, I RESISTED** the urge to hunt with an inline muzzleloader for many years, even after I had added a couple to my battery. An invitation to hunt mule deer in the open country of New Mexico years ago prompted me to try a Knight Disc Supreme. I was hooked. Many different models of inline muzzeloaders are available today from Knight, CVA, Thompson/Center, Remington, Traditions, and others. Most are .50 caliber.

## Propellants & Primers

I was happy with Pyrodex in my inline rifles until Hodgdon introduced cleaner-burning Triple Seven. When checking out a new rifle, I compare group sizes fired with Triple Seven in both pellet and loose form and go with the most accurate. Pellets are convenient to use when hunting, but they cost more per shot and are not all that much faster during a reload than loose powder if premeasured charges are carried in quick-load containers. Since the volume of pellets is fixed, loose powder offers more flexibility for fine-tuning accuracy, but the difference is seldom great. I recently began using Blackhorn 209 in one of my rifles and am quite impressed by how little fouling it leaves in a barrel. Accuracy is also quite good. There are other blackpowder substitutes, but Blackhorn 209 and Triple Seven are the most popular.

The Hodgdon and Western Powders websites have plenty of data for their blackpowder substitutes. The Blackhorn 209 section of the Western Powders site also has excellent information on breechplug maintenance. The tunnel through the center of a breechplug made for use with 209 primers is usually of three diameters. At the rear is a chamber for holding the primer. From there the diameter is reduced a bit to form the flash channel. Diameter is further reduced at the front end of the breechplug to form the flashhole.

Hardened fouling buildup can restrict the flame traveling from the primer to the powder charge and should be removed with each cleaning. The Western Powders folks recommend using a 1/8-inch drill bit for removing fouling from the flash tunnel of T/C breechplugs while a No. 32 drill is the size to use on Knight and Traditions rifles. A torch tip cleaner is used to clean out the smaller flash holes in breechplugs of all makes. The maintenance section of the Western Powders website also contains information on correct 209 primer fit and headspace.

Then there is the matter of propellant ignition. Several companies now offer low-brisance 209 shotshell primers that are intended to reduce the hard fouling ring left behind by Triple Seven just forward of the breechplug. I have tried several brands, and while they do seem to reduce fouling, they are not as hot as regular 209 primers. They work fine with blackpowder, Pyrodex, and loose Triple Seven, but when shooting Triple Seven pellets and Blackhorn 209, velocity spread can

LEAD PHOTO BY **VIC SCHENDEL**


**Triple Seven in powder and pellet form and Blackhorn 209 are the most popular blackpowder substitutes used in inline rifles today. Regardless of which is used, the hot CCI 209 primer is a more reliable igniter.**

increase dramatically at low ambient temperatures. The CCI 209 Magnum is one of the hottest shotshell primers of American make available, and I now keep life simple by using it with all the blackpowder substitutes. Accuracy leaves nothing to be desired and no more hangfires or misfires. One of my older rifles uses percussion caps, and for it I prefer the magnum version from CCI.

## Projectiles

The barrels of today's .50-caliber inlines usually have a rifling twist rate of 1:28 inches and will easily stabilize pointed bullets weighing 350 grains and possibly heavier. Some of the early rifles with twists of 1:34 and 1:38 may not shoot accurately with long saboted bullets, such as the Barnes 290-grain TMZ and the Hornady 300-grain SST ML. If heavy weight is desired for one of those rifles, blunt-nosed pistol bullets of .45 caliber, such as the 300-grain Swift A-Frame and Hornady XTP MAG, may be more accurate because their shorter length is stabilized by a slower twist.

At the distances game is usually taken with inline muzzleloaders, the penalty paid for shooting less streamlined bullets is not as great as some hunters believe. Ballistic coefficient for the pointed Hornady 300-grain SST ML is .250 versus .200 for the 300-grain Hornady XTP MAG and Swift A-Frame. When all exit the muzzle at 2,000 fps, the pointed bullet drops only 3 inches less at 200 yards. In a 10-mph crosswind there is about 2 inches difference in bullet deflection. The pointed bullet does retain 100 fps more velocity at 200 yards.

The bore and groove diameters of barrels vary slightly among the various manufacturers. Realizing this, sabots made by MMP for the various bullet companies can vary slightly in diameter. Slugging the bore of a rifle will reveal what sabot diameter is likely to be the best match for it. An extremely tight fit will likely prove to be the most accurate, but it might be impossible to push down the bore of a fouled barrel. What we are looking for is the best compromise in accuracy and ease of loading.


**An oversized lead slug pushed through the barrel of a T/C 209x50 reveals bore and groove diameters of 0.501 and 0.510 inch respectively (top). A saboted bullet with a diameter of 0.510 inch would likely produce the best accuracy, but pushing it into the barrel with a ramrod would be extremely difficult if not impossible. Measuring 0.507 inch, the Barnes saboted bullet shown represents a compromise in ease of loading and acceptable accuracy.**

The accuracy of these .50-caliber, nonsabot projectiles is dependent on sufficient obturation during firing. Those of soft lead will deliver acceptable accuracy with fairly light powder charges, but the Hornady FPB is usually more accurate in barrels with generous bore and groove diameters when heavier charges and higher pressures are used.

This Barnes 290-grain T-EZ was fired into water at a velocity that closely simulates its impact velocity at 200 yards when exiting the muzzle at 2,100 fps. It shows excellent performance to say the least.

According to my measurements, the Barnes T-EZ is 0.504 inch in diameter, while the TMZ is 0.506 inch, both with 0.451-inch bullets. Bore and groove diameters of my T/C 209x50 rifles are 0.501 inch and 0.510 inch, so it is easy to see which of the two Barnes sabots would be easier to load in them. The larger sabot should be more accurate, but as you can see in the chart on page 72, there is very little difference between the two. Bore and groove diameters of my Traditions Lightweight LDR are slightly larger, and while the T-EZ is easier to load in it, the TMZ is definitely more accurate.

Hornady also offers two different sabots, standard and Low Drag, the latter for easier loading. Those I have measured are 0.506 and 0.503 inch respectively. The saboted bullets sold by companies that offer inline rifles are supposed to be sized for best accuracy in those rifles. The Smackdown bullets offered by Traditions are made by Hornady, and while the bullet is the same as the Hornady SST ML, the sabot is said to be sized specifically for the barrels of various rifles sold by Traditions. The same goes for Shock Wave bullets from Thompson/Center. The Shock Wave and Smackdown saboted bullets I have measure 0.503 and 0.504 inch respectively.

For those who prefer to buy bullets and sabots separately, MMP offers two versions of its .50-caliber HPH sabot. With a 0.451-inch bullet seated in both, the HPH/24 has an outside diameter of 0.505 to 0.506 inch compared to 0.507 to 0.508 inch for the HPH/12 sabot. The HPH/12 is much too difficult to load in my T/C rifle, and while the HPH/24 is a looser fit, accuracy is still quite good.

## INLINE ACCURACY

When hunting deer and other game, saboted bullets are a bargain at any price, but some are a bit expensive for practice shooting. One solution is to buy sabots from MMP at $18 to $25 per hundred and shoot lead-alloy bullets cast at home. Sabots for .50-caliber rifles are available for .44-caliber (0.429 to 0.430 inch) bullets and for .45-caliber (0.451 to 0.452 inch) bullets. When both are pushed to the same velocity, a .44-caliber, 255-grain lead-alloy bullet cast in a Lyman No. 429244 mold will shoot to about the same point of impact at 100 yards as the Hornady 250-grain SST ML. The same goes for a .45-caliber, 300-grain bullet from the RCBS No. 82083 mold and the Barnes 290-grain TMZ.

The Powerbelt and Hornady FPB are easy to load in a fouled barrel because they do not have a tight-fitting sabot. But since they are undersized when compared to saboted projectiles, the level of accuracy they deliver is totally dependent on sufficient obturation for a tight fit with the bore during firing. And since bore and groove diameters vary considerably among the manufacturers, they may or may not shoot accurately in rifles with generous bore dimensions. If a particular rifle proves to be inaccurate with a 100-grain powder charge, increasing it will sometimes result in a dramatic improvement in accuracy. Note the difference in accuracy of the Hornady bullet when 100 and 120 grains of Blackhorn 209 propellant were used in the Traditions rifle.

Velocities vary considerably from rifle to rifle, which is why those published by various sources differ. Once barrel length reaches 24 inches, increasing length might make for a better handling rifle, and it definitely puts muzzle blast farther from the ears, but there is very little difference in velocity.

## INLINE MUZZLELOADER ACCURACY

| BULLET | POWDER (TYPE) | POWDER (GRS.) | SABOT | VEL. (FPS) | 100-YD. ACC. (FPS) |
|---|---|---|---|---|---|
| **Traditions Vortek Ultralight LDR, 30-in. Barrel, Nikon 3-9X Omega** | | | | | |
| Barnes 250-gr. TMZ | Blackhorn 209 | 120 | Barnes | 2087 | 1.54 |
| Barnes 250-gr. T-EZ | Blackhorn 209 | 120 | Barnes | 2055 | 2.12 |
| Swift 300-gr. A-Frame | Triple Seven | 100* | MMP HPH/24 | 1516 | 1.43 |
| Swift 300-gr. A-Frame | Triple Seven | 150* | MMP HPH/24 | 1713 | 1.75 |
| Swift 300-gr. A-Frame | Triple Seven | 100 | MMP HPH/24 | 1866 | 1.61 |
| Hornady 350-gr. FPB | Blackhorn 209 | 100 | None | 1674 | 4.16 |
| Hornady 350-gr. FPB | Blackhorn 209 | 120 | None | 1933 | 2.31 |
| **T/C 209x50 Magnum Pro Hunter FX, 28-in. Barrel, Nikon 3-9X Omega** | | | | | |
| Hornady 250-gr. SST ML | Blackhorn 209 | 100 | Hornady | 1907 | 1.60 |
| Hornady 250-gr. SST ML | Blackhorn 209 | 120 | Hornady | 2055 | 1.74 |
| Hornady 250-gr. SST ML | Triple Seven | 100* | Hornady | 1740 | 1.50 |
| Hornady 250-gr. SST ML | Triple Seven | 150* | Hornady | 2018 | 2.55 |
| Hornady 250-gr. SST ML | Triple Seven | 100 | Hornady | 1941 | 2.18 |
| Barnes 290-gr. TMZ | Blackhorn 209 | 100 | Barnes | 1845 | 2.35 |
| Barnes 290-gr. TMZ | Blackhorn 209 | 120 | Barnes | 2012 | 1.54 |
| Barnes 290-gr. T-EZ | Blackhorn 209 | 120 | Barnes | 1986 | 1.61 |
| Barnes 290-gr. T-EZ | Blackhorn 209 | 120 | Barnes | 2055 | 1.71 |
| Barnes 290-gr. TMZ | Triple Seven | 100* | Barnes | 1722 | 2.07 |
| Barnes 290-gr. TMZ | Triple Seven | 150* | Barnes | 1958 | 1.64 |
| Hornady 300-gr. SST ML | Blackhorn 209 | 100 | Hornady | 1812 | 1.69 |
| Hornady 300-gr. SST ML | Blackhorn 209 | 120 | Hornady | 2044 | 1.60 |
| Swift 300-gr. A-Frame | Triple Seven | 100* | MMP HPH/24 | 1650 | 1.77 |
| Swift 300-gr. A-Frame | Triple Seven | 150* | MMP HPH/24 | 1911 | 2.28 |
| Swift 300-gr. A-Frame | Triple Seven | 100 | MMP HPH/24 | 1855 | 2.10 |
| T/C Maxi-Hunter 350-gr. HP Conical | Triple Seven | 100 | None | 1711 | 3.60 |
| Buffalo Bullet 385-gr. HP Conical | Triple Seven | 100 | None | 1659 | 2.25 |
| Hornady 385-gr. Great Plains Conical | Triple Seven | 100 | None | 1644 | 2.87 |

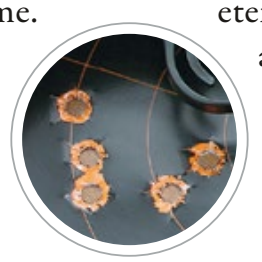
*Pellet form

**NOTES:** Accuracy is the average of two or more three-shot groups fired from a sandbag benchrest. Velocity is the average of six or more shots measured 12 feet from the guns' muzzles. Loose powder charges are volumetric and not actual weight. CCI 209 Magnum primers were used in all loads. Hodgdon does not recommend the use of three, 50-grain Triple Seven pellets, but some rifle manufacturers do. If in doubt about your rifle, contact the manufacturer.

Trajectory charts published by various companies can be close, but the only way to be certain is to actually shoot the rifle on paper at various distances. The bullet/sabot/powder charge combinations I have included are those that have proven to be accurate in my rifles. They may or may not be as accurate in other rifles, and I am sure there are other equally accurate combinations out there.

## Consistency Counts

Consistency in loading is extremely important. Bullets should be started straight in the bore with a short starter before the ramrod is used to push them the rest of the way home. If the bullet has a plastic tip, the tips of the short starter and ramrod should be shaped for that type of bullet, otherwise the tip will be crushed or broken off. Apply a uniform amount of pressure when seating bullets. For loose powder I apply approximately 40 pounds to the ramrod. When loading pellets, the bullet should be seated firmly against them but not enough to crush. Use the exact same brush/swab/dry routine between shots. Allowing the barrel to heat up excessively softens sabots, causing accuracy to suffer, so fire no more than three shots between complete cool-downs. Aim for a velocity spread of 75 fps or less. If it exceeds that with loose powder, you may not be compressing the charge enough. If it exceeds that with pellets, try loose powder.



Since one shot is often all a hunter gets with a muzzleloader, consistent point of impact of the first shot from a clean barrel in relation to point of aim is all-important. Even so, having a rifle/load combination that will place the second shot from a fouled barrel close to the first shot is ideal. Years ago, while hunting deer in Florida during the rut, my first shot was a miss, but rather than immediately running off, the buck hung around the doe he was courting. By the time I got my rifle reloaded, the two had strolled to about 210 yards from where I sat. A second shot landed exactly where intended and ended the hunt.

Any good inline muzzleloader should be capable of consistently shooting three bullets inside 2 inches at 100 yards. If all else fails to achieve that, try a sabot of slightly larger diameter. If that doesn't work, try a blunt-nosed bullet. If you are shooting a .44-caliber bullet and are not satisfied with accuracy, switching to a .45-caliber bullet and a sabot designed for it may tighten up groups due to the thinner wall of the sabot.

Hunting regulations pertaining to muzzleloaders vary considerably across the country, so becoming familiar with those in the state in which you will be hunting is a wise thing to do. As examples, there are very few restrictions in Alabama, whereas the state of Colorado prohibits the use of pelletized powder, saboted bullets, 209 primers, and telescopic or electronic sights. For those who live there, I have included a few conical bullets in the chart.

Regardless of the load used, wind is the inline muzzleloader hunter's biggest enemy. Launch a slug with a .250 BC at 2,000 fps and a 10-mph side wind will deflect it off point of aim 10 inches at 200 yards. ST

The author took this very nice whitetail at 223 yards with a Traditions Vortek Ultralight LDR loaded with two 50-grain Triple Seven pellets behind the Swift 300-grain A-Frame bullet. The recovered bullet is shown to the far right.

**QUICK**SHOT

# Springfield M1A Scout Squad

BY JOEL J. HUTCHCROFT

**I CAN'T HIDE THE FACT THAT I LIKE SPRINGFIELD'S .308 GAS-OPERATED** semiautomatic M1A a lot. Over the years I've fired a bunch of the different versions (including the standard M1A, the "Loaded" version, the SOCOM 16 model, and the match-quality M21 Tactical rifle), and they've all been accurate, reliable, and robust. I've come close to buying one several times, and I think I've now found my favorite. It's the Scout Squad configuration.

The Scout Squad's main features include an 18-inch barrel with 1:11 twist rate and a standard flashhider, an adjustable rear sight, a two-stage trigger, a 10-round detachable magazine, and either a composite or walnut stock. The defining feature, however, is the forward-mounted scope base. It's intended for mounting a scout-type scope.


## M1A SCOUT SQUAD

| | |
|---|---|
| **MANUFACTURER** | Springfield Armory<br>springfield-armory.com |
| **TYPE** | Gas-operated autoloader |
| **CALIBER** | 7.62 NATO/.308 Winchester |
| **MAGAZINE CAPACITY** | 10 rounds |
| **BARREL LENGTH** | 18 in.; 1:11 twist |
| **OVERALL LENGTH** | 40.3 in. |
| **WEIGHT, EMPTY** | 8.8 lbs. |
| **STOCK** | Composite (as tested) or walnut |
| **LENGTH OF PULL** | 13.5 in. |
| **FINISH** | Parkerized barrel and receiver, Mossy Oak camo stock (as tested) |
| **SIGHTS** | Military-style, fully adjustable aperture rear, National Match military post front |
| **TRIGGER** | 5.75-lb. pull (as tested), two stage |
| **SAFETY** | Two position |
| **PRICE** | $1,848 (Mossy Oak camo stock) |

PHOTOS BY **MICHAEL ANSCHUETZ**

**The forward-mounted scope base allows a scout-type, long-eye-relief scope to be easily installed (left). The 18-inch, chrome-moly barrel comes with a standard flashhider and a military-style front sight (center). Lifting the hinged, steel buttplate provides access to a storage compartment in the composite buttstock (right).**

The rifle weighs a hefty 8 pounds, 13 ounces unloaded, but I don't mind that in this case because it helps make shooting 7.62 NATO or .308 Winchester ammunition more comfortable. With a Burris 2.5-7X Scout scope, Burris quick-detach rings, and a loaded magazine, the rig weighs 10 pounds, 6 ounces, according to my digital scale. The great balance somehow makes the rifle seem lighter than its actual weight.

The Scout Squad is offered with a walnut or a composite stock, and the composite stock can be had in either black or Mossy Oak camo finishes. I chose the Mossy Oak camo version. The composite stock has a storage compartment in the buttstock, and the handguard is fiberglass.

Average trigger pull weight of my rifle's two-stage trigger was 5 pounds, 12 ounces, and my rifle liked the Black Hills 155-grain ammunition, as evidenced by that load's excellent average accuracy of 1.19 inches at 100 yards. That was for 10 five-shot groups fired from a sandbag benchrest. Overall average accuracy for all five of the factory loads that I fired in the M1A Scout Squad was 1.72 inches. I shot this gun twice as much as *ST* requires for accuracy evaluations just because it was so much fun to shoot.

There are two things that M1A shooters need to know. First, the rifle has a floating firing pin. Consequently, Springfield cautions that manually loading a round in the chamber and allowing the bolt to fly forward can cause a slam-fire. For safety's sake, the shooter must feed cartridges from the magazine. So if you want to shoot the rifle as a single shot, load one round in the magazine, insert the magazine in the magazine well, and then feed the single round from the magazine.

Second, M1A rifle barrels should be cleaned with the rifle upside down to prevent solvent from getting into the stock and the gas port of the barrel. When cleaning the gas system, be aware that it is designed to operate dry, so be sure to remove all solvent from the various parts before putting them back together.

As I said earlier, I like the M1A a lot. It can do everything from hunting big game to defending your home, and shooting it is tons of fun. It really is a do-it-all rifle. ST

## SPRINGFIELD M1A SCOUT SQUAD ACCURACY

| AMMUNITION | VEL. (FPS) | E.S. (FPS) | S.D. (FPS) | 100-YD. ACC. (IN.) |
|---|---|---|---|---|
| **.308 Winchester** | | | | |
| Hornady Superformance 150-gr. InterBond | 2807 | 29 | 11 | 1.64 |
| Black Hills Gold 155-gr. A-Max | 2563 | 30 | 13 | 1.19 |
| Australian Outback 165-gr. GameKing | 2669 | 16 | 6 | 1.45 |
| Federal Gold Medal 168-gr. HPBT | 2555 | 48 | 19 | 1.24 |
| Federal Low Recoil 170-gr. SP | 1841 | 51 | 25 | 3.08 |

**NOTES:** Accuracy is the average of 10 five-shot groups fired from a sandbag benchrest. Velocity is the average of 10 rounds measured 12 feet from the gun's muzzle.

**QUICK**SHOT


# Leupold
# VX-6 4-24X 52mm IR

**BY JAKE EDMONDSON**

**LEUPOLD VX-6 SERIES SCOPES WERE INTRODUCED A COUPLE OF YEARS** ago, and they have a 6:1 zoom ratio that delivers, according to Leupold Communications Manager Pat Mundy, far more range and utility than ever before. New this year is the 4-24X 52mm side-focus scope with either TMOA, Varmint Hunter, or Boone and Crockett Big Game reticles. The Varmint Hunter and Boone and Crockett reticles are illuminated, and both feature finger-adjustable, pop-up resettable adjustments and an integrated push-button illumination and side-focus parallax dial.

All VX-6 scopes have twin bias erector springs and 1/4-MOA adjustments with zero-stops, and they accommodate Leupold's Custom Dial System (CDS). CDS allows shooters to match their scope to the ballistics of their chosen ammunition and sight-in conditions, and each scope comes with one free CDS dial.

I chose the illuminated Varmint Hunter reticle, which is what Leupold calls a "hold point" reticle. It has lines and squares that allow shooters to range their targets and compensate for drop and wind.

Here's how the reticle works. Once you have your scope and rifle sighted-in, at the appropriate distance for your chosen cartridge per the instructions given in the scope's user manual, the center crosshairs intersection is the hold point for 200-yard targets. You use the horizontal lines on the lower crosshair for 300-, 400-, 500-, and 600-yard targets. For targets at 350, 450, or 550 yards, you hold between the appropriate hold points.

To compensate for a 10-mph wind, you use the left or right edges of the hold points. To correct for a 20-mph wind, you place the small square to the right or left of the appropriate 10-mph hold point directly on the target when aiming.

The 4-24X 52mm VX-6 models have 34mm-diameter tubes and feature Leupold's Quantum Optical System, which combines lead-free, precision-ground, and edge-blackened lenses with Xtended Twilight lens coatings for the highest level of light transmission. Exterior lens surfaces are coated with Diamondcoat2, and the scopes are backed by Leupold's full lifetime guarantee. ST

## VX-6 4-24X 52MM IR

| | |
|---|---|
| **MANUFACTURER** | Leupold & Stevens leupold.com |
| **MAGNIFICATION** | 4-24X |
| **OBJECTIVE LENS DIAMETER** | 52mm |
| **TUBE DIAMETER** | 34mm |
| **EYE RELIEF** | 3.7 in. |
| **FIELD OF VIEW** | 5.0 to 28.0 ft. @ 100 yds. |
| **ADJUSTMENT CLICKS** | 0.25 MOA |
| **ELEVATION ADJUSTMENT RANGE** | 68 MOA |
| **WINDAGE ADJUSTMENT RANGE** | 68 MOA |
| **LENGTH** | 14.3 in. |
| **WEIGHT** | 24.3 oz. |
| **FINISH** | Matte black |
| **PRICE** | $1,874.99 (Varmint Hunter IR) |

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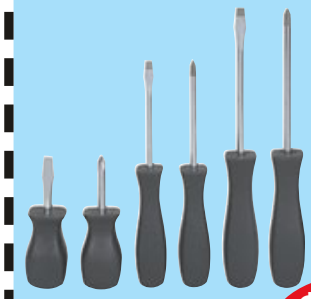

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**QUICK***SHOT*

# Galco **Hornet Holster**

**BY JAKE EDMONDSON**

**THE NEW HORNET HOLSTER FROM GALCO GUN LEATHER OFFERS COMFORT,** speed, and concealability. Even more important, it provides the security you need when carrying a handgun in a belt holster. Even with a small, lightweight revolver or auto pistol, you don't want a loose-fitting, floppy rig for carrying your personal-defense gun on your person. What you need is a good, solid holster and a stiff belt.

Galco's Hornet is a solid belt holster that carries your compact handgun in crossdraw and appendix positions. According to the company, the Hornet is an evolution of Galco's popular and award-winning Stinger strong-side belt holster. The Hornet is made of premium steer hide and uses a tunnel-style belt loop mated with a belt slot, which, together, provide excellent stability. The Hornet holds your handgun in a slightly butt-rear cant, which helps facilitate an easy draw from either the crossdraw or the appendix position. The holster's open top makes the draw fast and simple and also makes getting the gun back into the holster easier.

The Hornet is available in black finish and can be ordered to fit these revolvers and semiautomatic pistols: Charter Arms Undercover; Colt Agent, Cobra, and Detective Special; Glock G26, G27, and G33; Ruger SP101; Smith & Wesson J-Frames; and Taurus Models 85, 94, 327, and 605.

*Shooting Times* has been saying for years that a good defensive holster needs to provide three important functions: 1.) It has to be designed to easily conceal the handgun. 2.) It should be of simple design that carries the gun securely and allows immediate access to the gun. 3.) It should be made of the finest materials. I think the Galco Hornet is ideal for everyday concealed carry. In fact, it's hard to imagine a better carry rig for my favorite Smith & Wesson J-Frame revolver. The holster is both stylish and unobtrusive, it offers instant access if I find myself in a life-threatening encounter with an attacker, and it's made of good quality leather.

The Hornet fits belts up to 1.5 inches wide. The MSRP is $64.95. **galcogunleather.com** ST

An interesting feature of the Model 03 is the cocking lever, located under the barrel in the center of the forearm. The shooter simply loads the magazine, which is located in the buttstock, then presses the cocking lever to chamber a round. It's a cool design, if you ask me.

The first 4,000 or so 03s were manufactured without a safety. A crossbolt safety was later offered. Though the gun could be special ordered without the safety, I don't know why anyone would not want a safety on a semiauto.

The 03 was relatively successful sales-wise, but Winchester eventually modified it. I believe sales had been lagging a bit because .22 Win. Auto ammunition wasn't as readily available as .22 LR ammo was, and in 1933 Winchester brought out the Model 63 that was chambered for .22 LR. It was virtually identical in function to the 03, but the barrel was lengthened to 23 inches. There was also a Model 63 carbine version with a 20-inch barrel, but it was discontinued in 1936. Not many Model 63 carbines were made, and now they're worth a premium.

Speaking of premium prices, don't do what I did when I first became interested in these old autoloaders. After Olson got my attention with his nice Model 03, I realized I needed one. I went to a gun show in Las Cruces, New Mexico. I have to admit I hadn't done a great deal of research and mistook a Model 63 carbine and a Model 03 as being the same model.

I wound up buying the clean, old Model 63, but not until I endured the embarrassment of not knowing the difference between the old guns. My 63 is a lot of fun to shoot and is as accurate as any .22 rifle I've shot. It's a little picky on the brand of .22 LR it likes, but it's reliable with the right stuff.

A limited run of standard and high-grade Model 63s with the 23-inch barrel was produced from 1997 to 1998, and vintage Model 63s are fairly easy to come by. If you run across one for sale, I say you had better not let it slip through your fingers. ST

## Model 63

Winchester produced the .22 Long Rifle Model 63 semiautomatic rifle from 1933 until 1958. After 1946, the receiver was grooved to accept scope mounts.



WINCHESTER MODEL 63 **COURTESY OF PEKIN GUN**

# Gotta Love a .22

Anyone who says a .22 LR rifle isn't a household necessity better be ready for a fight. **BY BART SKELTON**

**THERE'S HARDLY A TOOL THAT IS MORE VERSATILE,** less expensive to use, and more fun to knock around with than a good .22 rifle. However, shooters often go through phases regarding calibers. I know I have. My interests have turned to more virile chamberings over the years, going from the .22 LR to the .243 and then to the .45-70 and the .375 H&H, along with a slew of others. The pursuit of the right caliber has been endless, but I keep going back to the .22 LR. It's perhaps my favorite rifle caliber. And I renewed my acquaintance with this old friend once again when I picked up a vintage Winchester Model 63 autoloader at a recent gun show.

My first firearm was a Winchester Model 62A pump-action rifle with an exposed hammer. It was the perfect gun for a youngster to learn the basics of handling a rifle. I progressed to a semiauto .22, a Ruger 10/22 that I carried every day for a number of years. I didn't have much experience with Winchester autoloading .22 rifles until friend Lance Olson, the famous wildfowl conservationist, introduced me to one of his personal favorites, the Model 1903. Turns out, Olson is rarely without one of these fine little carbines, and he practices with one almost daily.

Winchester's first semiautomatic .22 rifle was introduced in 1903 and was called the Model 1903. It was designed to fire the special rimfire .22 Winchester Auto cartridge. In 1933 the rifle was modified, chambered for .22 LR, and became the Model 63 (shown).

The Model 1903 was an interesting development by Winchester just after the turn of the century. As most Winchester collectors know, the company had a special relationship with gun designer John M. Browning, and that relationship resulted in some fine firearms like the lever-action Models 1886, 1892, 1894, 1895, and others.

Browning eventually parted ways with Winchester, and the company became rather concerned that its reputation would suffer with the loss of its top inventor. Winchester needed to demonstrate that it could continue on successfully without one of the most famous gun designers in history. Browning had apparently been working on a self-loading rimfire rifle at the time of his departure, so Thomas C. Johnson, one of Winchester's employees, took on the task of designing the company's first rimfire semiautomatic long arm. The result was initially called the Model 1903, later shortened to the Model 03.

The 03 was a carbine with a 20-inch barrel developed for a proprietary cartridge called the .22 Winchester Auto. The carbine had a blowback mechanism, and the cartridge powder charge had to be compatible with the weight of the breechbolt. Back in those days, .22 ammunition varied greatly in power, depending on the manufacturer, so Winchester developed its own cartridge. The .22 Win. Auto round was loaded with smokeless powder and used an inside-lubricated, 45-grain bullet. Because the .22 LR was still being loaded with blackpowder as well as smokeless powder at that time, and because blackpowder would surely foul the 03's action and render the gun inoperable, the .22 Win. Auto did not have the same dimensions as the .22 LR; therefore, .22 LR could not be used in the Model 03.



Continued on Page 79


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